

THE PSYCHOLOGICAL REVIEW.

SOME CURRENTS AND UNDERCURRENTS IN PSYCHOLOGY.¹

BY PROFESSOR JOSEPH JASTROW.

University of Wisconsin.

In surveying the addresses of my several predecessors in this office, I am pleased to find that the precedents which they have set for the tenor and purpose of the presidential address to this Association are sufficiently diverse to enable me with propriety to follow my personal inclinations on the present occasion. Though various in trend and content, the several addresses embody two tendencies: the one accepts the obligation of presenting, in some comprehensive outlook, the status of a general problem, or of a sphere of psychological influence, or a portrayal of the bearings and relations that may most wisely pertain between different divisions or aspects of psychology, or between it and other departments of learning with which it has natural affiliations; the other utilizes this occasion for the presentation of a more specific theme representing the outcome of the reflection and investigation of the specialist. My topic introduces both types of considerations. I fear, however, that my representation will not be presidential in character, but rather that of a secretary who reports, with what skill he can command, the contributions of others, and describes, albeit with personal comment and as he sees it, the status of affairs within his chosen province.

That which may be spoken of as the most cherished interest

¹ President's Address, American Psychological Association, Baltimore, December, 1900.

of the American Psychological Association—the progress of psychology in this country—has unquestionably fulfilled the anticipations alike of the cautiously critical and of the buoyantly sanguine. There have been difficulties and obstructions; there have been misconceptions of our purposes and antagonism to what many of us consider the soundest direction of advance; there have been unwise and profitless discussions; there has been a loss, in some quarters, of the significant perspective of things born possibly of a youthful enthusiasm unripened by the experience of scientific intercourse and not yet mellowed by the composure of intellectual responsibility. But there has been pleasingly little of personal controversy, of pedantic insistence of individual points of view, of distortion of motive or purpose. All this we may look upon with complacency—nor is it necessary to intensify this pleasing state of consciousness by introducing the odium of comparison with conditions elsewhere. If we look upon our prospects from a material point of view—a point of view which I desire neither to emphasize nor to overlook—we may contemplate our achievement with a modest but proper satisfaction. So far as I am aware, those “large three-storied palaces erected for the study of psychology, with laboratories equipped with the utmost lavishness, in which companies of workers by the dozens take up the problems in hand”—with all of which our esteemed transatlantic colleague Kraepelin credited us some years ago—still exist only upon his generous pages. But the equipment and spirit of investigation for experimental work are, in the main, keeping pace with our needs and our ability to direct them to useful ends. It is particularly satisfactory to observe that the unfortunate antagonism formerly emphasized as existing between what was termed experimental and introspective, or physiological and analytical psychology, or was characterized by less pertinent designations, has to a large extent given place to a generous and rational comprehension of the inherent propriety of both aspects, indeed of the inherent necessity for both forms of study in all of the essential problems of psychology. We have little time to spare for the discussion of whether the shield is gold or silver; we have no excuse for one who travels so narrow a path that he cannot ob-

serve the several aspects of many-sided phenomena. One must not overlook the real distinctions that exist in the interests and the methods and the modes of approach and the purposes of different psychologists, as also of the various departments of our common pursuit. Indeed I am about consciously to betray my interest in certain of these aspects, and to pursue my way along my favorite highways and at my own pleasure. Such specialization and such consistency of purpose are necessary to a logical advance.

Having referred to aspects of the status of psychology about which approval cannot justly be withheld, and having for the present omitted reference to many other phases—such as the position of psychology in the educational curriculum, its growing prestige among the sciences, the recognition of its practical functions in education, in medicine, and its general contributions to the influences that make for civilization—in regard to which commendation would have been pertinent, I may all the more readily give expression to a feeling of disappointment that, in regard to many significant and sufficiently definite problems, the total result of recent research has not been larger. I recognize that this state of affairs could have been foreseen by a far-seeing prophet; and perhaps I am in the comprehensible state of mind of the farmer who, when questioned as to the condition of the crops, replied, “Well, they’re purty good. But they ain’t as good as I ’xpected,—and I didn’t ’xpect they’d be either.” Still, I am ready to admit that on many problems upon which much time and ability have been expended the psychological stock-taker would not have very impressive, positively available, assets to enter. As I have hinted, there are sound reasons for this state of affairs—reasons which I shall not further discuss; but we must remember that we are no longer an infant industry that may be expected to thrive only by the condescending protection of the powers that be. We have passed the stage at which we can offer immaturity as an excuse that covers all sins; we have entered upon or are certainly in rapid transition to a subsequent period of development, in which we must hold our own with the advancement of the other sciences, and expect to be judged, not as a favored

youngest member of the family, but by the same standards as the rest. For this purpose we shall have to show, after reasonable periods, material progress which the recorder of the advancement of the sciences may enter in his inventory book to our credit.

We may, at all events, take comfort that psychology is no longer in the plight of the sciences so graphically described and deplored by Bacon, which "have certain general positions which are specious and flattering," but in regard to particulars, "where they should produce fruit and works," give rise to "contentions and barking disputations," and "stand almost at a stay, without receiving any augmentations worthy of the human race." It still remains in part inevitable that, as Bacon further deplores, "what was a question once is a question still, and instead of being resolved by discussion is only fixed and fed"; but we have certainly become alike more skilful and more rational in our questioning, and fix and feed our opinions by more logical discussion, calling to our aid, not precedent and authority, but ingenious experiment, pertinent demonstration and living illustrations. So far has the condition of things altered that the accumulation of works, if not of fruits, in regard to particulars—the absence of which Bacon laments—seems to one of our own generation positively alarming. We recognize the geniality of James in the description of the modern method of "patience, starving out, and harassing to death," a method "which could only have arisen in a country whose natives could not be *bored*," a method wielded by "these new prism, pendulum and chronograph-philosophers," who in a material age stand for business, not for chivalry. None the less this method is credited with containing the promise of accomplishing even if "by spying and scraping," by "deadly tenacity and almost diabolical cunning" what generous divination failed to secure. But for successful triumph over the problems of psychology we desire no more brilliant example than that which James embodies, using the generous divination upon a material woven through and through with the outcome of experimental and experimentally incited data. There is no danger that divination and insight born of rare gifts will ever find their occupation

gone. We recognize their worth and their place; yet even they cannot build bricks without straw. And so we continue to cherish, with Bacon, that characteristic of a living science that finds its daily food in accumulations albeit small but worthy, and in the end produces fruits and works. If the harvest be not so large nor so rich as our hopes or our wishes led us to anticipate, let us learn how to fertilize the soil, or to improve our methods of cultivation. That as a result of such improvement a future president of this Association will be able to report in regard to many lines of research, such definite and demonstrable advance as I have indicated as a desideratum, is equally my belief and my hope.

The title which has been prefixed to my remarks is intended to be suggestive not of a systematic disquisition upon the nature of currents in general and of currents psychological in particular, but is designed to create a mood for a stroll along the shores of psychological waters, with the stroller's privilege of lingering to note what catches his eye and his interest, to watch the procession of the waves and the deposits which they roll up at one's feet, to follow the retreating rush of the waters, to note the action of the tide and the shifting of the sands, and with it all the building of permanent deposits and the shaping of continents. Or if we prefer to cruise in the waters themselves, we may sail with interest as our compass, and a course not too rigidly set. Yet he who cruises to advantage must neither drift nor go as the wind listeth, but follow the invitations of shore and bay, keep in mind, yet not too consciously, the headlands and reefs, touch at harbor and port, and be not unmindful of the attractions of home and the fireside. In some such way I shall attempt to cruise in and out among the currents and the undercurrents of contemporary psychology.

The conception that will serve as the background for my survey will be that of psychology as the science of mental functions. The attitude towards mental phenomena which this conception emphasizes came into prominence in the wake of the evolutionary wave that so wonderfully and so permanently altered the face of the waters. The conception of mental endowment as a growth-process and as a response to complex en-

vironmental conditions at once cast a blinding light upon an area of dimly-lit chaos in which dogmatism and misconception and neglect held a confused occupation. Not alone the illuminating truth that human mentality was intimately and significantly related to the mental endowment of animals was thus realized as a living and momentous reality, but, like the discovery of a new planet in the solar system, there entered our universe a new pivotal force. It brought us to realize that human history from its embodiment in the stone axe or the bone amulet, from the sculptured rocks of ancient America and the picture writings of ancient Egypt, from primitive cult to old-time science and to modern superstition, from savage myth to medieval legend and present-day folk-lore, is of a nature all compact. These and all other spheres of human achievement became suffused with the glow of a new interest, took on a richer coloring and shone with a fuller meaning in the light of this supremely significant conception. Into the dry bones was breathed new life, and the thoughts of men were widened by a keener insight of the increasing purpose that through the ages runs.

The functional aspect of psychology enters into a considerable portion of the contributions to modern psychological literature; it more often serves, however, to give the color-tone and the setting of the painting than it appears as the central subject of the composition. From its accepted recognition as an undercurrent I am desirous of seeing it brought forward as one of the main currents along which the burden of psychological knowledge comes freighted. And particularly should it assume this position as an educational highway. For collegiate instruction and as an introduction to the study of the nature of psychological problems and psychological thought, I place no aspect of psychology higher in appropriateness than the functional aspect; I regard no topics in psychology better suited and more pertinent and profitable for introductory study than those topics and those chapters in psychology in which this aspect naturally comes to the front. For the comprehension of the nature of sensation, of the powers of discrimination, of intelligence in general, of emotional and intellectual expression, of

movement and conduct, a consideration of these processes in reference to their functional phases is fundamental, and is a prerequisite to their profitable consideration in other aspects.

I shall stop to illustrate my point of view more in detail, even at the risk of dwelling upon what is familiar or commonplace—characteristics, let it be noted, of the possible importance, though not necessarily of the interest, of what is illustrated. By the functional aspect of vision, for example, I mean not merely the uses of the several portions of the visual apparatus—physiological functions in some part¹—but more especially the utility aspect alike of the more generic and of the more specific characteristics of human vision. The existence of vision itself represents a psychological response to a form of energy which comes streaming in upon our planet; the color-sense is a more specialized response to certain properties of that form of energy; both, in common with other senses, have the function of bringing us into relation with our environment, of enabling us to appreciate differences in our environmental conditions, and thus to regulate conduct according to circumstances. The sight of what is comes to be prophetic of what is to be, and forewarned we act forearmed. All this is of personal and immediate advantage to the individual, and in such advantage lies the clue to its constitution and to the understanding thereof. And similarly for detail: the nature of foveal vision is to be presented in regard to the advantages it possesses over a more diffuse non-foveal vision; the marvellous coördinations of binocular vision—representing as they do a most highly evolved

¹ In the discussion of this matter it becomes important to form as definite conceptions as possible of the relations of psychology and physiology. On this point I find myself in entire sympathy with the position taken by Fullerton, that much of what passes for and is incorporated in the text-books of physiology is really psychological in character. The absence of physiological knowledge is supplied by the introduction of relevant psychological material. Even the physicist indulges in the same procedure. There is no harm in this, if the psychological character of what is thus introduced is recognized, and it is not posed as physiological. As Münsterberg, endorsing the same position, says, "brain-physiology without psychology would have been perfectly blind"; psychology is perfectly willing to serve as eyes to those whose retinæ are adapted to other fields of activity, but it is proper to credit the results of this operation to the leader and not to the led.

product of development, and one reaching its perfection only in man—must again find an explanation from a consideration of their utility, the increase in the scope of psychological power which such an arrangement makes possible. Serving as a background to such considerations should be an appreciation of the primitive conditions under which the existing state of our mental endowment was moulded in the rough. The functional rationale of human vision as it is now constituted, is to be found in advantages that were real and significant in the life of cave-dwelling, forest-roaming, food-hunting man and of his more remote ancestors. Vastly as our sensory endowment has been modified, in structure and more certainly in the modes of its employment, by the increasing complexities of civilization, and especially of modern civilization, such variations are but refinements of finish that may obscure but do not obliterate the rough-hewn contours to which they have been added.

Another example pertinent to my present purpose, and an equally obvious one, may be found in a fundamental motor activity, speech; this, following the normal relations of things, is so intimately connected with and guided by a sensory process as to be more properly spoken of as a sensori-motor process. In this case the functional avenue of approach answers a question which otherwise might remain unasked: namely, as to the why and wherefore of speech as a vocal auditory process. Why did the ear and voice assume this all-important function, and not, for example, the eye and hand? In reply we must consider homely advantages of a primitively useful type; that in our ability to make sounds we have a mechanism which, unlike signs that appeal to the eye, we have always at our service; that in primitive times the darkness of night that would cut off the direct address to the eye in no wise detracted from the serviceability of auditory impressions; that the thicket and the jungle placed men out of sight but not out of hearing, and so on. Even the exception to the first of these statements proves the rule; for the visual sign-making apparatus which we have constantly at command—the making of gestures—was used as a most primitive mode of communication, antedating in some part even articulatory utterance. It is by considerations of this type

that the functional advantages of spoken speech, and the appreciation of the nature of its development and origin become possible. Other instances of this general type could be added, important and trivial, obvious and obscure, general and specific, from human endowment and from the animal world. They would serve to illustrate the variety and the scope of the functional aspect of mental phenomena, and by their aggregate extent and explanatory power would reveal the importance of this psychological current—a current increasing in its sphere of influence and destined to shape in considerable measure the contour lines of future psychological maps.

Still holding in mind the functional aspects of psychological processes, I shall next call attention to the threefold manner of approach to many of the significant problems of psychology—a contribution in my judgment that represents one of the most interesting and valuable deposits which the waves of recent investigation have washed upon our shores. This trinity may be spoken of as the genetic or comparative, the normal, and the decadent or abnormal phases of mental phenomena. I shall select for illustration of these phases the study of intelligence. Useful and legitimate criteria of intelligence are derivable from each of these phases, and each completes and corroborates the others. A conception of intelligence, to be adequate, must be founded upon the recognition of the comparative status of the reactions, simple and complex, which in their composite extent are properly brought within the connotation of this term. The exact fixation of the boundaries of intelligence, both above and below, need not detain us; the middle ground is well enough indicated by the ordinary psychological usage of the term, while the method of more precisely determining the scope and criteria of intelligence may in some measure find illustration as we proceed. Intelligence must first be realized as an advantage-gaining factor in the evolutionary struggle; that struggle is not merely, and indeed in all the stages that here come into consideration, not mainly a conflict of tooth and nail, a contest of strength of claw and fleetness of foot, but a war of wits, an encounter of skill and cunning, a measure of strategy and foresight. The reaction of bodily structure and psychological utilization of struc-

ture forms one of the most interesting phases of the study of intelligence. In this field lies the problem of instinct versus intelligence, with all its many ramifications; it is this that gives zest to the study of animal life, from the painstaking account of the courtship of a spider or the experiments upon the visual powers and the memory of an ant, to the dramatic and idealized narratives of Kipling's jungle, and Seton-Thomson's forest and prairie. In brief, an adequate conception of intelligence is not derivable from the contemplation of human activities; its validity must be further justified by its consistent applicability to the phenomena of animal intelligence. Nor is this the only application of the genetic or comparative point of view; two other developments are of equal theoretic importance, though each of the three differs widely from the others in the actual conditions of its applicability. The genetic growth of the individual in the unfoldment of infancy and childhood and youth and maturity offers another and an indispensable aspect of the study of mental endowment. The same is true of the growth of the race from savagery to civilization. Whatever criteria a scientific investigation shall decide as the proper criteria of intelligence must with due modifications and allowances find corroboration when applied to these three genetic series. It is the growing recognition of this requisite that I look upon as a significant current in modern psychology. Let me point out, also, that not only does this comparative aspect furnish a widening outlook over the range of mental processes, but that a truer insight into the nature of human activities is as likely to be the outcome of investigation in this field as of the direct study of the data of human psychology. This mutual illumination and suggestiveness of animal and human psychology contributes at once to the charm and the profit of this mode of approach. As a concrete instance I may cite Lloyd Morgan's exposition of the focal and marginal elements in perception. That lucid and acute analysis was the result of a study in regard to the differentiation of human and animal mentality; it leads Professor Morgan to regard the perception of relations (thus necessitating the serial focal apprehension of marginal details) as the essential criterion of and prerequisite to rationality. It may indeed be said that the

valuable contributions which Lloyd Morgan has made to our conception of psychological functions, and also to their analysis and their internal economy, are the result of his exceptionally able utilization of the comparative point of view, in the manner which is here emphasized.

The study of intelligence with reference to its status and the method of testing it in the normal individual is, to my thinking, one of the lines of investigation most deserving of increased attention, and one which I had in mind when deploring that in some directions progress had not been so definite nor so satisfactory as was to have been expected and as remains desirable. The functional endowment of the average man is a worthy object of the psychologist's devoted attention. It may contribute little or nothing to an analysis of mental processes, but it stimulates that branch of psychological investigation because its more detailed progress depends upon such analysis. We cannot test a process properly and discriminately until we have analyzed and discovered its relation to other processes, with some of which it usually combines to make a functional unit. One of the chief difficulties in the designing and execution of such tests is the ambiguity attaching to them by reason of an insufficient analysis of the mental attitude and of the processes contributing to the result. If consequences were always preceded by the same antecedents, if recognizable objective results were the infallible indices of determinate subjective processes, the path of the psychological investigator would be, not indeed strewn with roses, but certainly less beset by thorns. In the study of mental functions, important and trivial, nothing should be kept more constantly in mind than the truly complex and intricate logical relation that pertains between process and result. I am pleased to have occasion to cite once more Professor Morgan's researches for their excellent illustration of the essential connection and organic unity of human and animal psychology. Lloyd Morgan emphasizes the dangers of disregarding processes and accepting results—ends accomplished—as criteria of the status of mental actions. The example of Tony the dog and his learning to carry a stick in his mouth in passing through an open place in the rail fence

has come to be quite familiar. The passer-by, who happens to see the dog take the stick up properly by one end and draw it through after him, remarks: "Clever dog that, sir; he knows where the hitch do lie." But the experimenter, who has recorded the stages of trial and error, of haphazard holding and tugging at the stick in all possible directions, has a different and a more accurate conception of the dog's mental processes, which are seemingly indicated by the result accomplished. *Ab uno disce omnes*. Let no one look upon the study of mental functions and the determination of mental standards as a matter of technique and a facility in the use of apparatus, or as a process unrelated to a painstaking, analytical investigation.

An adequate set of tests of normal functional efficiency, that shall receive a considerable authoritative sanction, is a great desideratum for present-day needs, and an end by no means beyond the goal of properly directed endeavor. Its starting point is a correct analysis of the most distinctive modes of exercise of the several elementary components of our mental functions; the next step is the devising of tests that shall most simply, naturally and definitely measure the functional efficiency of a selected factor or process; this accomplished, the way is prepared for the extensive utilization of such standards or norms of efficiency, by (a) their correlation with one another, (b) by a comparison with similar results obtained upon children at different stages of their development, thereby gaining an insight into the order and nature of genetic unfoldment, (c) by a comparison with irregular, undeveloped, defective and decadent forms of such processes, as they occur in connection with individual variations, with the consequences of mental stimulation, or in disease. This programme, which could readily be expanded, is even in outline a most extensive one—rich in detail, fertile in mutual suggestiveness of its parts, possibly momentous in its practical consequences. The conclusion is obvious that for a host of comparative purposes the determination of norms or standards of functional mental efficiency is indispensable. That such determination involves conventions and artificialities is true and proper and inevitable. But neither is a foot, nor a meter, nor a candle-power, nor a horse-power, nor a volt, nor an

ohm a natural and predestined *ding-an-sich*. Yet the arbitrary and conventional character of these units does not interfere with their utility. I am not advocating a ready-made mental yardstick which shall show in what measure all men are not equal, and how each may discover the thumb-marks of his individual success or failure. All this has been attempted before, and with necessarily futile results. The problem is recognized to be one of a general statistical nature, freighted doubtless with practical consequences, but the application of which must always be uncertain and dependent for its success upon judgment and insight. There is no serious danger of being misunderstood in this respect. Some other forms of objection, however, to what I have advanced I must not seem to disregard. Having these in mind, I can only say that I cannot bring myself into an attitude of sympathy with those who, on grounds possibly legitimate in themselves, but not pertinent to the functional aspect of mental processes, question the possibility or the utility of mental measurements. A searching critique of the fundamenta of such measurements, of the assumptions which they involve, is helpful; it clears the atmosphere and brings out the perspective of things with sharpness and precision; it distinguishes between the true goal of such investigation and unattainable ideals; it points out sources of error and prevents misconception. Such criticism is wholesome and pertinent; but a transcendental skepticism in regard to the possibility of such measurements itself transcends its proper sphere when it impugns the value of the scientific study of mental functions by quantitative methods. I have equally little sympathy with those who admit the possibility and even the utility of such investigation, but question its psychological character. They speak of it, and somewhat disparagingly, as mental anthropometry, and thus in a measure restrict psychology to that which yields definite and, if possible, original analytical results. In part the difference between this attitude and the one I am advocating is one of terminology, and thus unimportant; in another aspect it is a difference in the interpretation of the scope of psychology—a subject certainly capable of supporting differences of view. I prefer to cast my lot with the wider conception of its scope, and mainly for the

reason that the relations between mental problems are so intricate and manifold that one can never anticipate from what sources further illumination may come. Call it mental anthropometry if you will, but do not disregard the valuable contributions to other divisions of psychology and to the general conception of this science, which such investigation has the possibility and, in my opinion, the probability of contributing.

But I find myself drifting along a current tending seaward, and I must turn about and regain my course. The study of the normal efficiency of that composite group of processes which contribute to our common humanity has, I confidently believe, an important and a practical future. Its progress is dependent upon careful analysis, upon systematic investigation, upon the coöperative and the coördinate labors of many, upon interpretative skill and psychological insight. An auspicious start has been made; the day of the production of works and fruit cannot be far off.

I have still to consider the abnormal aspect of typical mental functions. The familiarity of this point of view, the prominence it has assumed through various causes, render unnecessary any extensive consideration of it in this connection. It is almost sufficient to cite the vast increase in definiteness and value of our knowledge of the factors of speech that has come from a study of speech-defects, as in itself a convincing endorsement of the value of this aspect of study and of the significant message which it bears for the psychologist. I wish also to refer to the group of studies that owe their origin to the enthusiastic devotion and ingenuity of Kraepelin as the most systematic and successful expression of the point of view here emphasized. So close is the relation of the abnormal to the normal, and so defective our knowledge of the latter, that, in many instances, for the sake of the determination of what is abnormal the establishment of the normal is first undertaken. Several of the Heidelberg studies are equally studies in normal psychology, and develop methods by which academic laboratories may profit. Thus, in many converging ways do we approach the central problem of the determination of the nature, conditions and fluctuations of psychological functions.

The mention of the abnormal suggests a presence in contemporaneous thought that offers a seductive opportunity for comment; and, as I am privileged to stroll, I shall yield to the temptation. There is a noisy undercurrent in psychological circles which affects us professionally in a pronounced and unfortunate manner. It does so, in the main, indirectly by affecting public opinion in regard to our aims, our purposes, our methods, our needs and our *raison d'être*. For the reputation of psychology in the hands of its professional representatives I have no fear; and I am convinced that this undercurrent can make no headway against the true interests of our science, and certainly not in this country. But the public does and does rightfully take an interest in psychological matters; and we cannot be blind to the fact that under present conditions such interest is likely to take its clue from the unusual and the obscure, that the current conception of psychology is becoming distorted, and the true interests of psychology are jeopardized, that its encouragement and advance are hampered, by the unfortunate confusion of psychology with what is unfortunately termed psychical research. If I may repeat words used elsewhere: "In the face of this situation, the professional psychologist cannot but take heed of the dangers which imperil the true appreciation of his labors and his purpose on the part of the sympathetic layman. It is a matter of serious concern that the methods of genuine psychological study, that the conditions of advance in psychology, that the scope and nature of its problems should be properly understood. It is a matter of importance that the dominant interest in psychology should center about the normal use and development of functions with respect to which psychology bears a significant message for the regulation of life."

I am well aware that it is in the modest retreat of study and laboratory that the real advancement of science goes forward; but science also progresses in the glaring light of publicity. Even newspaper science has a power for evil that the protectors of science cannot afford to let go unrecognized. And the layman, however discerning and sympathetic, cannot be expected always to distinguish between the sterling results of authoritative research and that which bears some of the outward traits of

such genuineness ; and therein lies the danger. Let me repeat : against the professional and technical investigation of the legitimate problems unfortunately grouped together as psychical research (true psychological problems, although not always studied as such) I have no word of complaint. Some of these problems appeal strongly to my interests, and others do not ; and particularly in regard to the latter class do I admire the patience and the devotion and the skill with which research has been carried on. I admire it the more because of my personal incapacity to contribute to it. It is to this aspect of investigation that I would transfer James' remark : that it could only have arisen in a country whose natives could not be bored. True psychical research in the hands of true psychologists may not always be profitable ; but it is in no sense a menace, and may prove, indeed has proved, in several directions to be an aid of great value. But psychical research as it has quite generally been pursued, and the spirit and attitude towards psychology which it has bred, have been productive of harm to our profession and to the reputation that we cherish. By this insidious undertow many have been carried to sea ; their intellectual footing seems to have been lost by reason of a single or a few startling experiences, and their conceptions of our mental nature seems never to have recovered its normal status. Against such disaster and equally against the unfortunate connotation which has been scattered broadcast as to what psychologists are and do, I wish to utter a word of warning and of protest. I shall bear with what grace and resignation I can command the tiresome tales brought to me with an air of satisfying my most intense cravings, of coincidences and hallucinations and haunted houses and thought-transference ; but I cannot permit the injury to the fair name of psychology, which this misrepresentation of its message abuses, to go unprotested.

I cannot formulate to my own satisfaction how this form of interest came about. Was there always a widely disseminated interest in psychological problems which the Societies for Psychical Research simply diverted into their own peculiar channels ? Or is this but the old-time interest in the supernatural assuming a more modern garb ? Does the popular

mind that speaks glibly of the psychological basis of education, that absorbs notions about mental influences in disease or in hypnotism, make any consistent connection between these interests and that in telepathy or the performances of a trance-medium? The parentage of the intellectual craving that psychical research satisfies is indeed obscure. The relation between psychology and psychical research is clearly not that of mother and daughter; and yet I am reminded of one of the several conflicting opinions regarding Astrology to which Kepler gives expression. "Astrology," he apologetically writes, "is indeed a foolish young daughter, but bless me, where would the all-wise mother, Astronomy, be if she had not this daughter! The world is more foolish still, so foolish indeed, that the folly of the daughter must be speciously presented and be cried to the public for the benefit of the old sensible mother." Nor is the critical temper of to-day as lenient as that of Kepler's time; for he could add, "But when guesses are limited to yes and no, one has always about half the chances in one's favor. Right guesses are remembered, failures forgotten, and so the astrologer remains in honor." But the failures of psychology will not be forgotten, nor its indulgence in guesses be condoned; nor will the psychologist remain in honor unless he succeeds in differentiating his goal and purposes and methods from those that strive to connect personally interesting experiences with the movements of the stars and the exercise of transcendent mystic forces. For it still needs to be said, and said emphatically, that the explanation of what may be mysterious is not intrinsically the psychologist's business; nor does it follow that the explanation of what has some resemblance to obscure psychological process will, when found, be of a psychological kind at all. It may be and it may not be psychological; and until we know how mysterious knowledge is gained of other people's private affairs, there is no saying how little or how much or what kind of a psychological material may there be hidden. It is an interesting speculation to imagine what might have happened if the X-rays had accidentally been discovered by some one interested in the display of occult forces, who would have gone about the world describing the contents

of sealed boxes, locating bullets in the bodies of wounded soldiers, seeing through opaque screens as through glass, and posing his success as the result of a telepathic gift, or the intervention of personally interested spirits! With the world at large totally in ignorance of the true *modus operandi* what a career for a modern Cagliostro! How he would have been welcomed and risen superior to so-called expert tests, and what a secondary place all other varieties of 'psychical research' phenomena would have taken! Yet the supposition is not a likely one, because discoveries of this kind demand quite other conditions for their appearance; but it serves to show that one cannot decide whether a process is psychological in character unless one has a fairly clear notion as to what the process is. As we learned before, results and processes are not always mutually inferable. Our X-ray telepathist might have successfully posed as a psychological mystery; but when his methods came to be discovered it would have been obvious that the whole procedure was a physical and not at all a psychological one. *Hæc fabula docet* many things, and most of all that reasoning about results in ignorance of the processes by which those results have been reached, is apt to lead to curious reasonings, and, misery like, to make strange bed-fellows.

But I am reminded once more that the shore is receding from my view and that I must regain my course. A current in the affairs of modern psychology, or rather in those of its waters in which I am cruising, which appeals to my interest, is the study of functional complexes. Easily the best illustration of these are the two prominent speech-complexes, reading and writing. Quite a number of studies have appeared in recent years, and apparently largely in independence of one another—thus indicating the common wave of timeliness which brought them forth—all of which have to do with an attempt to obtain a more intimate knowledge of the processes by which so large a part of our intellectual pabulum is assimilated, and our intellectuality is expressed. Here again the problem of processes versus results meets us. We all read and write; but the reading is not psychologically quite the same thing for different persons. The analysis of these individual differences, their reduction

to their lowest terms, their determination by accurate methods constitute one of the essential phases of the psychology of reading. What are the sensory processes contributory to reading? To what extent are they auditory, to what extent visual, how far are they in terms of sensations accompanying articulation? What are the motor innervations contributing to the result? Do the lips move in reading, is there embryonic articulation? What makes a rapid reader? How are slow readers differentiated from rapid ones with respect to the above characteristics? What are the distinctive reading methods? What are the mechanical and what the apperceptive elements of the process? What are the movements of the eyes in traversing the line and page? What are the time-relations of these various processes? What is the unit of apperception? What is the relation of quickness of comprehension to the capacity to retain and reproduce? What are the differences of method and process that distinguish the novice from the expert reader? These and a host of other problems, all of which enter to constitute the psychological study of reading, have been in part investigated and with very satisfactory though as yet incomplete results. It will soon be possible for some properly equipped investigator to unify and coördinate this scattered series of researches to fill out the gaps in the exposition—not forgetting the abnormal and the genetic aspects of the problem—and thus to present a most useful compilation of the psychological status of one of the fundamental functional complexes. Work of this kind I regard as eminently desirable and as leading to such definite and tangible results as I have indicated as a desideratum. The share of American psychologists in what has thus far been done has been most creditable;¹ and for several branches of the study the opening wedge was driven by one of our own number, Cat-

¹ Among special contributions to the psychology of reading may be mentioned the investigations of Goldscheider, Erdmann, Dodge, Pillsbury, Quantz, Huey, Bagley and others; while the list would be considerably extended if it were made to include the researches contributing to the subject in the line of studies of some of the processes which enter into the general complex. The relations of reading to thought-processes is a topic of special importance to be pursued in part by other methods. Experimental studies of the genetic and the diseased aspects of reading are destined to yield illuminating contributions to the general topic.

tell, in his investigation of the apperception-time of words, letters and kindred factors of the reading process.

In regard to writing, an equally detailed study is possible. I may, for the sake of brevity, refer simply to the investigation published last year by Diehl under the inspiration of Kraepelin, as a type of this activity. He measured, by specially devised apparatus, the aggregate extent of the writing, its rapidity, the pressure exerted in writing, the pauses in the consecutive process, the effect of practice, individual differences in these respects, the influence of familiarity and the difficulty of the subject matter, and from a correlation and comparison of these factors drew suggestive conclusions valuable in themselves and stimulating to further inquiry. The study of individual handwriting as indicative of the complex psychological traits commonly summed up as character has always been a tempting problem, particularly upon its practical side, and has in this aspect given rise to endless systems of graphology. The form of research just commended will clearly demonstrate the unpsychological nature of such individual application of vaguely derived generalizations. The work of Preyer, one of the few treatises bearing the title, 'Psychology of Writing,' though it incorporates some of the more precise and measurable characteristics of handwriting, is practically devoted to an unprejudiced but equally unsatisfactory examination of characteristics far too complex and far too much influenced by conventional and other extraneous circumstances to be applied to individual cases. A hundred or even a score of such characteristics, mutually corroborative, might be of some value, but to present one as an index of character is both unwarranted and misleading. Such application of a vague glimpse of types and generic differences is an index of an imperfect conception of the logical relations of theory and practice. This is equally the fallacy of phrenology, of palmistry, of graphology. It is the differences between these and the modern doctrine of the localization of brain functions, the study of comparative anatomy and of the psychology of writing as a functional complex that mark the advance of science in method and purpose.

Other functional complexes offer promising outlooks to the

psychological investigator. Vocal speech and auditory comprehension are more fundamental than reading and writing, but are more difficult of investigation because of the difficulty of their record. Yet recent progress in the study of phonetics—which, judging by the increased number of entries in the psychological literature, is another example of the simultaneous pursuit of the same problem by widely separated and independent workers—promises to supply us with an adequate though not yet a simple method of such record; and the physicist may have a surprise in store that will, at a single stride, set the entire method of research upon a different basis. Such research is to no inconsiderable extent the direct result of an interest in the psychology of the speech process. The list of functional complexes does not end here, though those connected with the expression of thought in conventional symbols will always command a leading place. The psychology of the telegraphic language has been ably presented by Bryan and Harter. The study of locomotion has as yet been mainly of physiological interest, but has points of suggestiveness to the psychologist; tests of skill, of mutual guidance of eye and hand suggest another form of complex; while special mechanisms, such as those concerned in the perception of the third dimension of space, or the spacial correlations of sight and touch, offer a further expansion of distinctive yet allied departments of investigation. All of these have an essentially analytical interest due to the fact that their precise investigation contributes to and in part depends upon an analysis of the several factors constituting the complex, and, again, a practical interest in their utility and application to the affairs of life.

By an easy transition I come to speak next and last of the practical currents in contemporary psychology. It is sufficiently obvious that one and probably the dominant bond of connection between psychology and the practical life lies in the aspect of psychology here emphasized, viz., as a science of mental functions. A great deal has been said pro and con of the practical importance and value of psychology; the discussion has in some measure cleared the atmosphere of misconceptions, has tempered extravagant statements on both sides, but has left a weakened

and confused appreciation of the practical import of the study and the results of psychology. The discussion has produced, to use James' words, an "atmosphere of vague talk about our science, which to a great extent has been more mystifying than enlightening." There is no one who has brought to this question a more searching analysis and a more wholesome influence than he whom, notwithstanding his foreign origin, we are able to claim as an American psychologist—Professor Muensterberg. He has properly centered a prominent part of his discussion about the relations that may be most philosophically, and by the same token most truly and advantageously, maintained between psychology and education. The blind infatuation of a certain type of educational theory and practice for a psychological escort he has effectively disillusioned. The psychological utilization of material which the occupations of the school-room offer has been trenchantly differentiated from the training and the talents which the teacher should covet for success in the art of education. And the suggestion of an intermediary between the educationalist and the psychologist, who shall derive inspiration and method from the one and apply them to the investigation of the problems which the other presents, is both pertinent in itself and contributes to the clearer understanding of the functions of each. With these and other positions taken by Muensterberg in regard to the relations of education and psychology, I cordially concur, although not without certain minor differences of attitude. But these differences of point of view are not so great but that the resulting opinions could be united in a stereoscopic combination with a clear and truthful result. But in regard to the more fundamental aspects of theory and practice as applied to psychology, our ways divide. In some measure we believe the same things but for different reasons, and in some measure we do not believe the same things.

It seems safe to assume that psychology is essentially devoted to an analysis and explanation of the phenomena of the mental life; that for this purpose it posits a logical reconstruction of elements, which does not find its counterpart in the world of observable reality; that the connection of psychological with physiological and physical processes does not in the least im-

pugn the distinctively psychological status of these phenomena, still less does it explain them; that, in brief, psychology as a science has its peculiar status, material and assumptions, and above all its special attitude towards its material—a characteristic no more and no less peculiar to psychology than to the other sciences. All this is true and in certain aspects important; but I cannot admit that the realization of these truths in any way militates against the truly intimate practical significance of psychological principles and generalizations. The world that the physicist constructs and the suppositions which he creates to explain physical phenomena are not found in the world of reality; yet the bond of connection that unites the ideal and the actual world of the physicist is different only in type, not in logical status, from the similar nexus between the artificial but justifiable creations of the analytical psychologist and the realities of psychological functional mechanisms. A two-dimensional flatland is a legitimate and interesting mathematical speculation; and those who can may revel in the intricacies of a universe of four dimensions. The purity of mathematics is not impugned by the actual existence of a three-dimensional world in which endless practical applications are made of homely mathematical principles. If we render unto Cæsar those things which are Cæsar's, we shall run no danger either of disregarding the significance of earthly realities, or, philistine-like, of ignoring the necessity of a deeper logical insight into the rationale of our habits of thought and their philosophical justification, than the needs of the practical life demand. But as Lloyd Morgan reminds us, the legitimate reply to the plain man who regards "the psychologist with some suspicion, as one who is over-subtle in his distinctions, too introspective, and not sufficiently objective in his study of mind," is neither an expression of impatience, nor "the assumption of an air of superior knowledge and wisdom, but a quiet determination to justify his procedure by the results which, through its means, he is enabled to reach."

The path that unites theory and practice is always difficult rightly to trace and to follow. Short circuits are as disastrous as other forms of attempt to take by storm the kingdom of

heaven. Like the two parts of the terminal apparatus in a system of wireless telegraphy, so with theory and practice, each responds to each when the oscillations are sympathetically attuned. The messages that theory sends to practice and practice to theory can be interpreted only by those who have learned by technical skill and progressive experience the signal code of the system of communication. The relation of theory to practice in psychology is not essentially different from that which pertains in other sciences and their derivative arts. It may be that as psychologists we are more tempted to preach without strictly examining the authority of our texts; but there are sound texts from which to preach, and they carry with them weighty practical consequences. Psychology and life are closely related; and we do not fulfill our whole function if we leave uninterpreted for practical and public benefit the mental nature of man. If it be urged that, important as this office may be, it is not inherently a psychological one, I can only say that I find the conception of our science that incorporates these declarations of principles within its constitution as alike more inspiring and more consistent than one which, by ignoring them for philosophical reasons, converts a fictitious into an actual barrier.

For the educationalist and for the teacher, for the biologist and for the physician, for the anthropologist and for the sociologist, for the philosopher and for the moralist, for the student of history and of literature, psychology brings appropriate messages, as it also finds in these activities valuable illustrative material for the building of its own structure. Psychology assumes its proper share in the formation of those interests and attitudes which in part are the outcome of and in part pave the way for the newer discoveries and the more illuminating theories that mark the progressive stages of civilization. The emphasis placed upon this function of psychology and the increased recognition of the practical significance of our science I recognize as a prominent and fortunate characteristic of the intellectual currents in which we move and live. That there are in this region dangerous waters, making necessary all the craft and skill which our helmsman can command, I am well aware; that adventurous barks too lightly laden or ambitiously carrying too

much sail for their beam, or both badly rigged and carelessly piloted, have come to grief, I recognize and deplore. None the less through these waters lies a profitable and a proper course—a goal worthy of our earnest endeavor and a fulfillment of our natural responsibilities.

Here ends my cruise. We were not embarked upon a voyage of discovery, and we certainly had no thought of any psychological garden of the Hesperides to captivate our fancy and possibly distract us to the neglect of our rudder. The uneventful, but I trust not wholly uninteresting, excursion which I have offered in response to your complimentary expression of willingness to entrust yourselves to my temporary pilotage, has, at all events, furnished vistas which your eyes can see and interpret more deeply and more truly than my own, and in so far may not have been unprofitable. The varied scenes of activity upon which we have rested our gaze augur well for the vitality of the interests and the intellectual attitude which we, from various sides individually yet in consonance collectively, represent. It is certainly pardonable to note, as we go, that this activity and this vitality find not their least successful expression in the contributions furnished by American psychologists. Indeed, it may be said that some of the currents to which I have asked your attention flow most characteristically along American shores. The currents of the present suggest those of the future. That twentieth-century psychology will offer problems of difficulty and complexity, it requires no prophet to foresee; the currents and undercurrents which we recognize, and also attempt to reinforce or to oppose, will continue to roll along and gather strength or decline, and are in turn destined to be joined by others originating possibly in unlooked-for sources and coming unexpectedly to the surface of the waters. But, though our modern machinery makes us familiar with mills that grind with exceeding rapidity, the forces that direct the natural and wholesome advance of intellectual products grind slowly and grind exceedingly fine. Evolution and not revolution is the order of nature. The psychology that we perhaps unwisely call new, if worthily representative of its time, is a natural sequence of former developments, and is destined soon to be merged in those

of the future. Whether it be merely the effect of our near-sighted perspective, or that we see as through a glass darkly or, as we hope, somewhat prophetically, yet we cannot but feel that the impress which the second half of our century has made upon the status of psychology will long be apparent in the currents and the undercurrents of the century to come.

THE SOCIAL INDIVIDUAL.

BY PROFESSOR A. T. ORMOND.

Princeton University.

The consciousness of the present is distinctively social and tends to the merging of the individual more or less completely in the social organism. This tendency itself is no doubt one-sided, and there are dangers with which it is threatened. It arose, however, as a healthy reaction against the separative and anti-social tendencies of the thought of the eighteenth century which had embodied themselves in extreme forms and in which the divine right of the isolated individual had become a central dogma. Modern psychology was born on the rising tide of this movement, and has not as yet quite lost the impress of its parentage. Until a comparatively recent date the struggling science might very appropriately and not unjustly have been styled the psychology of the solitary.

Now apart from external motives there may be found in consciousness itself a degree of justification for this separative tendency. If we look into the workings of our own consciousness through the spectacles of the most advanced psychology we will find that it is possible for us to distinguish what we may call our isolated, individual self, from a larger self that includes our social relationships. Thus from the former point of view I conceive myself simply as a solitary ego or a me standing over against the other me of my family and social environment, and, in a sense, as having interests that are distinct from theirs, while from the point of view of the social relationships this dualism seems to be transcended, and the me becomes husband and father in relation to the family, and citizen in relation to the community and nation. It was the solitary ego rather than the me of the social relationships that became the subject of the old psychology, and the new psychology has arisen as the result of an

effort to cure this one-sidedness and to restore the broader social self to its rights. The project of the new psychology thus contemplates the reform of the psychological doctrine of the self as a basis for an ultimate reform of the doctrine of social relations.

How then, we may ask, is this new concept of the self as a *socius* to be achieved? In the first place, it is clear that it will be necessary to deny the validity of the older point of view in which the self stood apart from its social relationships and viewed these as external to its own interests and self-activities. On this point the old psychology can derive little support from the ordinary consciousness of the plain man to which its appeal was so commonly made; for the plain man's self is one that includes all his possessions, so that even an insult to his dog is taken as an indignity to himself. The real self is the concrete self of the social relationships; the self that can say, "nothing that touches any of my possessions can be indifferent to me." It is the business of the new psychology to show the validity of this by exhibiting either analytically, that the stripping off of the social relations leaves a mutilated ego, and when carried far enough nothing that is definable; or, genetically, that it is one and the same consciousness and life history in which are developed the representation of the individual self and that of the social other, and that the distinction between these two representations is *intra* rather than *ultra* to the real self. What then do we mean by the self as a *socius*, and how is the concept of the *socius* to be scientifically grounded? The answer will involve a reflection in two parts, the first dealing analytically, the second genetically with the problem. In the first place, then, we may ask for an analytic answer to the question what the notion of the self as a *socius* is. Let us take as our point of departure the consciousness of an adult, say that of an intelligent man who is at the same time innocent of psychology and not much given to self-reflection. Take, for example, the ordinary man of business and society whose life is absorbed in outer activities, and let our analysis proceed from the standpoint of his own conscious relation to his activities rather than from the aloofness of a mere spectator. His world must be represented, in fact, as one in which

his own aggressive and organizing agency stands central and to which every part of it will be related. Let such a man begin to inspect his own conscious processes; or, what would be still better, let some one who is trained in this species of analysis enter into his point of view as far as may be possible and perform the work of analysis in his behalf. If the man be primarily a man of business and only in a secondary sense a votary of society, it will be found that the standpoint from which he is most accustomed to consider himself and the issues of his life is that of his business relations, and that proceeding out from these he develops a conscious representation of himself as so bound up with a community of other selves of the same type, and whose point of view is identical with his own, as to give rise to a whole system of responses in the form of demands and obligations. This system of responses will constitute what is most real in his life, and were he to attempt to form any construct of himself as he would be apart from these vital relations of the business world, he would either find the enterprise impossible, or the self he would achieve would be hypothetical rather than real. The real self is the self of vital interests, and apart from this there can be no real self. The only resource open to the man in question, if he be not satisfied with his business self, is to transfer his vital interests to some other world. Let this be the world of society. Here it will be found that the same drama repeats itself; his vital responses take on the society order, and when he attempts to dissociate himself from his society relations the self that remains is mutilated and to a great degree divested of reality. This analysis may be carried through the whole sphere of his social relationships so as to include the domestic, civic and religious, and the same conclusions will be found to hold true. The self-consciousness of the family man is that of the individual clothed with a specification, so that the real self is now father, husband or son, and this specification thus modifies and determines the basis of all his conscious responses and consequently the whole sphere of his conscious responsibilities, privileges and enjoyments. Again the civic consciousness by virtue of which he becomes a citizen, a patriot and a member of a political party, is the bearer of a still further

specification of the central self. The citizen-consciousness is that of the conscious self specified and defined in the direction of the civic interests and relationships, and thus becoming the bearer of a larger complex of duties, privileges, responsibilities, rights and enjoyments. Lastly his religious consciousness by virtue of which he becomes a worshipper of God is a still further specification in view of his sense of unique relation to a being that transcends him. The result is a self defined and specified in this particular direction, and responding concretely to a system of motives that are distinctively religious; in short, a self that is not real apart from its religious relations.

We have only to follow out this analysis into every detail of life in order to reach the conviction that the self which is central in all these activities, and which we may, therefore, call the cardinal self, is not in any sense independent of its social relations, or in any sense complete without them. The social relations constitute in fact the modes by which the self passes from the stage of indeterminateness, where it only vaguely realizes itself, to that of more complete specification and definiteness, through which it becomes more completely self-realized. The *socius* is, therefore, the more fully defined and realized self. James, in his very suggestive chapter on *The Consciousness of Self*, in the second volume of his 'Psychology,' gives an exhibition of this analytic method¹ and shows how the self achieves the various and successive stages of its definition in terms of the social medium. He represents these several stages as so many selves, and maintains that a man has a plurality of selves, each of which has its own characteristic ways of responding to its world. This may be accepted as a striking and, on the whole, appropriate way of stating the case, provided we do not go to the extreme which James avoids, and assert that these selves are not only distinguishable, but also separable. Our doctrine will lose coherence if we do not hold to it that it is the same cardinal self that is central and continuous in all this variation of form, and that the process as a whole is to be taken as the mode in which this cardinal self attains to definite and concrete self-consciousness.

¹ Psychology, Vol. I., Chapter X. The Consciousness of Self. This chapter has marked an epoch in the recent psychology of Self.

Passing to the second method of dealing with the social aspect of the self, the genetic, we find important illustrations of it in the work that is being done in the field of genetic psychology. The general aim of genetic psychology is, of course, to discover and formulate the stages and conditions of the development of consciousness. But a special department of the science has arisen of late in response to a pressing demand for a more adequate treatment of the psychological aspects of the social consciousness. The result has been a group of works which have had for their aim the genetic study of the social individual or self. Taking the work of Baldwin as developed in his *Social and Ethical Interpretations in Mental Development* as representative of the common aim of these works, we may found on it the following representation. The problem of this branch of the genetic enterprise is to show how the social consciousness may be brought under the rubrics of psychological evolution so as to give a demonstration of the solidarity of the social with the consciousness of the individual self. And this aim is achieved by showing in detail how the self in coming to its own clear and definite self-apprehension is brought by the same process to a recognition of its social other. The investigations we have in mind posit, by implication at least, a germinal self or at least a consciousness of the self-type as the inner individual center of response, and the object is to exhibit the method and the environmental forces which lead this germinal self-consciousness through the progressive stages of a development in which the social becomes a corporate part of the very self. Now what is needed in order that this aim may be effected and the development be seen to be real is to determine first what is meant by social environment and heredity; (2) the characteristic form of reaction in this field, and (3) the kind of definition or specification that the self obtains as a result. In short, the categories of the evolution must be defined with reference to the kind of material in which they are supposed to work.

Now it is not difficult to determine the nature of the social environment. If we consider the self as a social unit in a system of interacting units, it will be clear that the environment is simply the social medium in which the organism exists and performs its

functions, and that this medium not only includes the social individuals of the community, but also the social institutions and conventions of the community-life and conduct. Let us represent a child, for instance, as a floating center of adaptation in a medium that will embrace not only other social individuals and institutions, but will also hold in solution the whole current mass of conventions, convictions and tendencies that are characteristic of the time. This complex will represent the environment with which the child's consciousness will be in interactive relation. What, then, shall we designate as social heredity? It is possible, of course, that social modifications may be transmitted in a direct, organic way. But our opinion as to this would be largely determined by the theory of heredity which we regarded as nearest the truth. It is obvious that a Weissmanian could have little sympathy with the notion of the organic transmission of social effects. If, however, we recognize the super-organic character of the social, we will not be disposed to think it strange if we are asked to look in the super-organic field for the principle of the conservation of social effects. In truth, we have been asked, notably by Baldwin, to look into the heart of the social medium itself for this principle of conservation. When we consider this medium carefully we find that it not only contains a mass of what we may call social traditions in solution, but that there is a tendency in this medium for these traditions to embody themselves not only in institutions which perpetuate certain great ideas or trends of the mass, but also to give themselves an unorganized though well-defined form in what may be called the *spirit*, which the past has projected into the present. This spirit will manifest itself most broadly in civilizations, less broadly in national character, so far as it grows out of traditions. It will give itself more and more circumscribed but not less powerful embodiments in the traditional spirit of tribes, cliques, special institutions and families, the spirit of the family, for example, being one of the most potent educators of the child. The tendency of this conserving force is, therefore, toward the fixity of definite types in distinction from that of the environment, which is a medium in which everything tends to become fluent. Now it is to this conserving

force, however it may express itself, whether in the perpetuity of institutions, the conservation of literature and art, or in the hereditary spirit of family, tribe and nation, that the name social *heredity* is to be applied, and it is evident that when we have overcome a little our biological prejudices against the super-organic in general we will be ready to admit that we have a force here which performs a real function of conservation and transmission. We shall take the liberty then to agree with those who have thus defined the principle of social heredity.

The second problem we have to determine is the form which the responsive, adaptive movement takes in this field. The psychologists to whom we have referred develop two lines of investigation which have a bearing on the question, the first of which has for its object the exhibition of the general method by which the subject-consciousness comes to a realization of itself and its world, while the second aims to determine the principle by means of which this result is achieved. Now in regard to the general method by which the subject-consciousness realizes its world, it has been carried almost to the point of demonstration, I think, that the movement is first objective. Consciousness goes out upon its objective world in some pulse of aggressive activity, and in this act is able in some way to penetrate and realize the object. This leads to a return reactive movement in which consciousness as the result of its penetration of its world, attains to a higher and better defined conception of itself. The general movement is thus circular and embraces objective and subjective stages. What then is the principle through which this movement realizes itself? Here again we come upon a super-organic phase of our problem. The principle or category which was first pointed out by Tarde, and developed by Baldwin, Royce and others, is that of *imitation*, a term that is somewhat difficult to define, but whose operation may be definitely conceived. Let us suppose that a boy of say six years, who is the son of a carpenter, after observing his father plane and fit together some flooring boards, procures a plane and some pieces of board and makes the effort to plane them and fit them together.¹ The process is manifestly one of

¹ This illustration is taken from an instance that actually happened a few days ago in connection with the building of my own house.

imitation, and the boy has the representation of his father's action as a copy which he is trying to reproduce. By a series of tentative movements let us suppose that the boy succeeds in a passable reproduction of the copy he has set before him. We have here not only a transaction, but an experience. The transaction is the *imitative* movement or series of movements by means of which the boy has reproduced a certain kind of effect in the objective world. The experience is the subjective reaction of this result, the modification or specification which the self has achieved when it has not only expressed the emotional exaltation which we call the feeling of success, but has also become defined by its knowledge of the feeling of a carpenter when he produces the original of the boy's copy. In other words, the boy has not only produced an effect in the objective world, but he has also defined a consciousness in himself analogous to the consciousness which in his father accompanied the act of carpentry. And it is open to the analyst in this field to point out how this new consciousness becomes, by virtue of the fact that it takes the form of a defined idea, a motive impulse to further activities in the same line. We thus have exhibited the operation of a principle which tends to the repetition of activities on a progressively higher scale, and thus to the perfection of the adaptive result.

Let us now pass on to the third point, and consider the kind of modification or specification which the self receives as the result of this process. Referring once more to the case of the boy, it is clear that the knowledge of the way in which an objective act of skill is to be performed will not be the only respect in which his self-consciousness will become defined. More important than this in its psychological bearings will be the fact that through his activity the boy is able to *enter into his father's consciousness and to realize, in fact, how a carpenter feels in connection with his work*. In short, he has made an important step in the direction of mastering the carpenter's point of view from which he contemplates and reacts upon his world. We have, now, only to change the illustrations to forms that are more distinctively social, as, for example, the imitation by children of family, social or religious functions, in order to be able

to see that this category of imitation stands as a definite mode, whether we regard it as the only mode or not, by and through which the growing consciousness not only makes progressive inroads into the objective, but also achieves a progressive definition and qualification of itself.

If now we take into account both lines of psychological investigation, we find that in both inquiries the social vindicates itself as an essential element in the defined consciousness of self. The analytic inquiry made this clear by showing that to strip off the social modification is also to take away the definitions of self-consciousness, so that where the process has been completed there will remain nothing but the wholly undefined cardinal self which the whole investigation has presupposed. The various social selves are reducible, therefore, in the last analysis to phases of the one central self. The results of the genetic inquiry have been found to be on the whole confirmatory of the results of analysis. The problem here is one of history, and the aim is to show how the self develops its social character. The outcome of the investigation is, as we have seen, not only confirmatory of the result of analysis, but it teaches an impressive lesson in its own way. When we have followed the process by which the social elements gain entrance into the growing consciousness, and have seen that it is the very process also in which the self-consciousness becomes defined, our conviction becomes that of one who has been permitted to be present at a demonstration.

Admitting the truth of the doctrine as thus far developed it is still open to us to ask whether the boy's own subjective consciousness with which he accompanies the progressive stages of the objective activity is not his only immediate experience, and whether he does not learn how his father feels in a given situation, by traveling through that situation, and first learning how he himself feels?

This seems to be a more adequate view, and we are disposed to recant anything we have said to the contrary, and to put in its place the statement that the boy learns the true subjectivity of situations by traveling through them, and that being the model of his father traveling through the same situation in

mind, the interpretation of the father's consciousness is the result of a largely spontaneous application of analogy. This will enable us to define the boy's relation to his model in a way that will save the initiative of his own consciousness, for if it turns out that there is only one way of getting at the inner consciousness of another, and that, by traveling through some objective movement in an imitative way which generates directly a modification in our consciousness which is referred to the consciousness of the other, through the model that connects it with the same kind of activity; if this proves to be true, then we are in possession of a datum that will be important when we come to determine how one conscious self may interact with another.

Analysis of the situation makes it evident that the above statement of the case is correct, and that while the boy seems to be reading his father's consciousness directly through his model, *he is, in the first instance, determining his own consciousness by means of the imitative activity, and reaches the construct of his father's consciousness only by what we may venture to call an immediate analogical inference.* If this be true, the question may arise as to the precise function which the *model* performs in the boy's development. The imitative function is clear enough, and there can be no question that what the boy has in the foreground of his consciousness is not simply a representation of a series of movements, but rather the representation of this series as connected with, and as being the movements of, a definite individual, his father. The whole model is, therefore, a representation of his father performing a series of movements and the boy's attempt to imitate the whole situation. It is clear then that the effort to imitate is in reality an effort on the part of the boy to identify himself with his model, and that this identification involves his reading himself consciously into the standpoint of his model, so that his own consciousness and that of his model, so far forth as that special series of activities is concerned, shall be the same. Now we have here, I think, an instructive example of the typical method by which the self comes into conscious relations with other selves and is able to form constructs of the selves which stand related to it as its social others. We are not dealing here with the practical motives that may

enter into the situation and lead to actual association. Men as a matter of fact associate for all sorts of reasons. The question here is different. Assuming that men do and will associate for a variety of reasons, we ask: What is that fundamental quality of their nature which makes it possible for them to associate and without which association would be impossible? Mr. Spencer has given a general answer to this in the second volume of his 'Psychology,' in which he maintains that in order to sympathize with our fellows we must be able to represent to ourselves their consciousness and their actual mental condition.¹ Now the whole theory of imitation may be regarded as a grounding of this general principle by showing how the representation of another's consciousness is achieved. And the analysis of the imitative situation has led us to expect that in it we have involved the most vital point of relationship between one individual consciousness and another. Let us endeavor then to make this clear. We have seen that a necessary condition of imitation is a model in the foreground of consciousness. The boy's model is his father planing and fitting floor boards. Only a part of this model is, however, an external representation. The most vital part for us is internal and consists in a construct which the boy has formed of the consciousness of his father. If now we scrutinize the situation with sufficient care we will find that the boy's construct of his father's consciousness which he has incorporated in his model is one that is defined just as far as his experience of his father enables him to define it, and beyond that it is undefined, or at least but vaguely guessed at. And the point of vital interest here is the fact that before the imitative activity begins *just that part of the father's consciousness that is directly involved in the series of movements which the boy is trying to reproduce, will be an undefined region for the boy, and that the imitative movement will have as its result its definition.* Let us represent this part of the father's consciousness by x ; it will be clear then that to the boy x is an unknown quantity, and that the value of this quantity is to be determined by the experiment itself.

¹Principles of Psychology, Vol. II., Corollaries; I., Sociality and Sympathy.

That x shall be an unknown quantity is then an essential condition of the experiment. The boy is doubtless unaware of this, and he is least of all interested in a psychological experiment. All that he is conscious of is the fact that his model is interesting to him, and that there is a, to him, undefined impulse to attempt to realize it. Nevertheless he is taking part in a very profound experiment, and is putting both science and metaphysics under obligation. Let the problem here be to determine the value of x . Now the known terms are the present consciousness of the boy, which is undefined in its relation to x ; the model which connects a series of movements with the father's consciousness, which to the boy is also undefined as respects x ; and thirdly the impulse to imitation—that is, to a reproduction of the model. These are the known data. How then will the boy proceed to ascertain the value of x ? The answer will be as follows. Obeying the impulse to imitate his model he will, no doubt in a very tentative way, proceed to perform the series of movements involved. He will provide himself with a carpenter's plane and with some pieces of flooring board, and will proceed to use the plane as he has seen it used, and finally to fit the pieces of board together so that the raised part of one will fit into the groove of the other, and he will no doubt prosecute the experiment until he has succeeded in obtaining a satisfactory result. This will represent the whole outward process, and will be all perhaps that the boy could give a very clear account of to his own consciousness. But in the meantime x has not dropped out of the problem, and some very important steps have been taken in the determination of its value. For the boy has been learning how a carpenter feels in connection with his work, or this part of it, and in doing so has defined his own consciousness as respects the unknown term x . The value of x expressed in terms of his own consciousness is the first-hand knowledge he has acquired of how the carpenter-consciousness operates in connection with this particular series of movements. We have then as the first step in the solution the determination of the value of x *for the boy's own consciousness*. But it still remains to determine the value of x for the father's consciousness. The peculiarity of the situation here is, of course,

the fact that the father-consciousness is assumed already to know the value of α for itself, and that the problem is altogether one for the consciousness of the boy. How shall the boy reach the construct of his father's consciousness so that he shall be able to sympathize with him in his work? It is clear that in order to discover the value of α in the father's consciousness the boy must realize it in his own, and then using his own α -defined consciousness as a model he will by the use of the analogical reference construct a like defined consciousness for his father, and will assume that his father's conscious relation to his work will be the same as his own. And having thus determined the value of α for his father's consciousness he will be able, taking the common value of α as his basis, to enter sympathetically into his father's experience.

The above analysis of the situation has been followed out far enough to enable us to see clearly the modes by which one conscious self enters into and realizes the consciousness of another self. There is no magic involved, nor is the relation purely outward and extrinsic. But we find that, through the stimulus of the model in the foreground of consciousness, the boy, and his experience may here be generalized, enters upon a series of movements which enable him to effect a new definition in his own consciousness, and it is through this self-definition that he is able to form his construct of the consciousness of another. Now it is evident we may broaden out the situation beyond the limits of well-defined imitation, so as to include the direct as well as the indirect methods of interaction, and the principle will be the same. I mean by this that, whether we conceive the father as reacting directly upon the boy, or the boy as reacting directly upon his father, it will be true of these direct reactions, as it is of the indirect reactions in which imitation is overt, that each, in order to reach a construct of the consciousness of the other, must draw it up in terms of his own inner experience in similar relations. This brings the issue to a point where the last and most vital term in the theory of the social consciousness may be brought out and defined. We have seen that every step we take in construing the inner consciousness of another—that is, in conceiving the existence of

another like ourselves—is preceded by the specific definition of our own self-consciousness in just the respect in which we proceed to define the other; and we have discovered this in connection with the fact that we were able to reach this definition, first of self and then of the other, through the medium of some common outer movement or series of movements, which we were able to relate to both self and the other as their common activities. Neglecting this latter feature for the present and taking into account only the inner relation between self-consciousness, and that of the other, it is clear that the condition of being innerly conscious of another self is the becoming ourselves conscious in the definite sense involved, and that it is from this definite self-consciousness that we form the construct or concept from which we read ourselves into the consciousness of the other. The primacy of the self-consciousness is thus secured, and the consciousness of the other is, in this fundamental sense, its function. When, therefore, we ask either how the self comes to ascribe its analogies to another or how the other secures for itself a representation in the consciousness of the self and thus the power to influence it internally, the answer must be one in which this primacy is respected. For, whether we suppose that the consciousness in which the effect is to be produced has before it a definite model, as in explicit imitation, or simply certain outer signs which it interprets, we will find that the interpretation in either case will involve the bringing of the sign to the touchstone of some inner experience. Thus, when the child begins to cry on seeing her companion's finger bleed, the result is no immediate effect of the representation, but acquires its emotional power through some process that associates it with an inner experience of pain of the child's own, arising from an analogous cause. The touch that makes us kin is, therefore, an inner touch, while the objective and outer motive that leads to this touch is either an imitative movement or a representation that is rendered capable of a reference to the inner consciousness of another by means of its prior association with inner experiences of our own.

The conclusion of the whole matter may be stated in the following terms. We learn as the result of certain experiences

to ascribe our inner consciousness, or its analogue, to others. The outward instruments of the development of this social consciousness are, broadly speaking, *association* and *imitation*. But when we pass from the consideration of the external instruments to that of the internal process we will find that we are able to enter into intelligible social relations with our other only because our nature is such that we are able to draw from the inner definitions of our own consciousness, brought about by certain objective agencies, a concept or construct of the consciousness of the other, which we conceive to be a true representation of his inner experience, and it is through this construct or representation that we are able to enter sympathetically into his life and treat him as a *socius*; a being like ourselves. On the other hand, if the question be how my other is able to come into social relations with me and to affect and modify me socially, the answer is very much the same. He can do so only by producing in me a definite representation of himself, and this is possible only through the outer mediation of association or imitation. The conditions are the same on both sides, and the truth is made clear that the only way in which social interaction is possible, or social effects producible, is through the power which each self-conscious individual has of internally representing the consciousness of his fellow; or, putting it from a different angle, the power which each self has of entering into the consciousness of its fellow and producing there an internal representation of itself.

AN EXPERIMENT ON GETTING AN AFTER-IMAGE FROM A MENTAL IMAGE.

BY JUNE E. DOWNEY.

University of Wyoming.

In the literature of the subject one finds a deplorable lack of detail both as regards methods used and results obtained. Leaving out of consideration the experiments conducted on hypnotized persons, the classic references are to the cases of Féré and Meyers and to the general statements of Wundt. The great difficulty that suggests itself to even the most casual reader of the passages in question is the one upon which Dr. Franz lays stress in his monograph upon after-images, namely, that the subject, who, in the nature of the case, must be an exceptionally vivid visualizer, could very well suggest a sequence of colors corresponding to after-image effects unless this possibility were ruled out by the subject's absolute ignorance of the very existence of after-images.

That the subject should be naïve as regards after-images is the first and paramount requirement for the success of the experiment. Other requirements and precautions suggest themselves, however. The subject must have his mental images under control; he must be able to hold them for a certain length of time; he must, moreover, be to a certain degree a trained observer—that is, able to observe and to report accurately upon color sequences. Usually, in work upon after-images, constancy in result is held to be the test of the trained observer, and yet even under the most unvarying objective conditions variations in the results obtained from any one individual will occur. Naturally one would expect to find this difficulty increased in dealing with mental images where the attributes of quality, intensity and duration could not be kept absolutely constant. Variation in result is usually balanced by frequent repetition of the experiment. But in the problems under consideration even

repetition has its dangers. How during these repetitions is the subject to be kept from suggesting a sequence of color once obtained? Conditions, of course, might be varied, or a sufficiently long time-interval might occur between the experiments to rule out self-suggestion due to conscious memory, but the effect of subconscious memory would remain. How serious the operations of subconscious memory might be the writer is not able to judge.

Since the colored after-images, even in those whose color-vision is classed as normal, vary widely within certain limits the results of any experiment upon the topic could be tested only by a comparison with the after-images obtained by the subject from a series of actually presented colors. Even so, discrepancies could not always be interpreted unfavorably, for variations, as said, may occur in any individual case. Within limits, indeed, variation would be favorable evidence, inasmuch as it would show the absence of self-suggestion.

The writer has been able to carry out a series of experiments on the after-images of mental images under the above-mentioned conditions. The greatest difficulty experienced was the finding a satisfactory subject. A great many students were tested, and although several were found who could visualize colors readily and vividly, yet work with them usually disclosed the fact that their images were not under control, could not be held for any length of time, could not be projected upon outer surfaces, etc. While several trials with different subjects were more or less successful, the experiments could not be carried far enough to justify any conclusions. An entirely satisfactory subject was finally found.

The subject was a girl in her twenty-first year, a junior in college in the classical course, her work being almost entirely confined to the languages. As regards after-images she was absolutely naïve. For the rest she is a good student, and not only an exceptionally good visualizer, but also accurate as to the memory and discrimination of colors.

The experiments were tried carefully. During the experiments, as far as possible, the eyes were kept from all stimulation other than light reflected from a white or black surface. In the majority of the experiments the colors were visualized

upon a white background, and, after they had been held for some seconds, the eyes were closed. Sometimes the background upon which the colors were visualized was changed; sometimes the after-image was projected upon some background other than the retinal light. The subject was asked to observe and to report carefully all experiences. Unfortunately not all the conditions could be kept absolutely constant. It was not possible to try all the experiments at the same hour of the day, nor at the most satisfactory hour. Usually the time given to the experiments was at the close of the day's recitations, when the subject was fatigued to a greater or less degree. During the early part of the morning the subject could visualize more readily and more vividly than later in the day. The experiments seemed to tire the eyes as would working with actual colors.

The aim of the experiment was to test other-colored after-images, and therefore the time of holding the mental images was made long. Nevertheless, positive after-images were noticed on several occasions as the records show. No attempt was made to keep the time of holding the mental image constant. The subject was not always able to hold the color a required time, and was instructed to close her eyes if she felt the image leaving her. The subject was also allowed to choose the form which the color should take. The order in which the colors were visualized in the different series was carefully varied; in particular, complementary colors rarely followed one another. The results, in general, show no error arising from this cause, and so this record, although carefully kept, is not included in the account. Every effort was made to rule out expectation by means of constant variations in the manner of conducting the experiment. When possible the subject matched the color of the mental image and the after-image on the Bradley color-top. No suggestion was ever made as to the object of the experiment and the casual remarks of the subject were interesting. "I can't see what you can get from these experiments, for the results are never the same twice," etc. At the beginning of each series the subject was questioned, as indirectly as possible, as to her memory of the previous results. She usually answered: "I haven't tried to remember." "I can't remember." She had

been instructed not to use effort to recall any of the results. October 23, she was, for the first time, asked to use effort and to remember what she could. "Of course I can't recall all, because the results were very different. I *know* that several times I got a black image after visualizing red. Once I got red after visualizing green. I can't remember what came after orange. Sometimes I got blue after yellow and I believe once I got orange after violet."

The girl is not particularly suggestible, nor, on the other hand, open to contrary suggestion. A trial was made both with visualized and presented colors in which a color sequence was suggested. In the case of the visualized colors out of eight experiments the true after-image came first five times, and had to be suppressed with effort before the color suggested could be visualized. In two experiments there came a perceptible blank interval and then the suggested color. In one instance the suggestion operated to remove all images. These experiments are included in the tables summarizing the results obtained from the different colors. In the case of the presented colors, now used for the first time, suggestion had in five experiments no effect whatever. In two other instances it operated to banish after-images altogether. In the further tests with actual colors the subject was asked if she thought she could control the color of the after-image. She thought not. The writer has never been able to change the color of an after-image in the slightest degree. That expectation could emphasize one color of a compound, the yellow or red of orange, for instance, is, however, conceivable.

In order to test the relative vividness of the color-tones of the mental images as compared with actually presented colors, an experiment was tried in which the visualized images were thrown upon colored backgrounds and after-images obtained from the combinations. The writer's faith in the color-intensity of the images was so slight that she fully expected failure in the attempt. The results did not confirm her expectations. On the contrary, the subject found no difficulty in throwing her mental images upon the most brilliant background. When questioned as to the relative intensity of the colors she maintained that they were about equal. The visualized disc completely hid the color

lying underneath. In three cases, namely, orange visualized on blue, blue on orange, and green on red, the colors fused, giving gray. Out of eleven trials, in only two cases was the subject unable to throw her mental image upon the required background. The after-images obtained from the combination of visualized and presented colors are included in the tables.

Two or three unsuccessful attempts were made to throw the after-images from a mental image upon a colored background. Unfortunately, circumstances made it necessary to bring the experiments to a close and further work along this line had to be given up.

At the close of the experiment the subject was required to get and to match carefully on the color-tops a set of after-images from the six spectral colors. The other conditions were kept constant. No explanations were made, but the subject was encouraged to compare as far as memory permitted both the visualized colors with the actual colors and the results in the two sets of after-images. The comparisons, which were highly instructive, are given below.

It will be noticed in going over the tables that the results obtained from green are practically constant, varying between brownish-red through spectral red to pinkish-violet. This table is the most satisfactory of the six. The results obtained from red are also conclusive, although by no means satisfactory. In the series of black after-images found in this table suggestion was doubtless operative, as remarked by the subject herself. The results from orange and violet were also practically constant, a blue-violet for the one, a yellow-orange for the other. Blue was the hardest color for the subject to visualize and the hardest to hold any length of time. Though a large number of experiments in this series were without result, those giving colors were, for the most part, favorable, showing yellow as the after-image. The results from yellow are unsatisfactory. While a violet or blue occurs in most of the experiments, it often came supplementary, as it were, to some other color.

In summarizing the results by numbering the colors obtained from any given image it is to be remembered that the true after-image, so to speak, was sometimes accompanied by little blotches

of other colors, and these are included in the summaries. A reference to the table will show just the relation between the colors where two or more came together.

In several instances the forms of the mental and after-images were different. In general as regards the disc seen as after-images both of the mental image and the actually presented disc the subject observed that it appeared to lie on an inclined surface; that is, it appeared oval rather than perfectly round.

In considering the results of the experiments the writer was, at first, puzzled by what had been obtained in the case of blue, orange and violet. Her own experience with after-images gives with closed eyes, blood-orange for blue, brilliant blue for orange, bright yellow for violet. The subject visualized a blue that was lighter than spectral, and a yellow-orange rather than a spectral orange. The results obtained from actually presented colors confirmed those obtained from the visualized series. As a matter of interest each member of the writer's psychology class of the present year was required to match carefully on the color-top his other-colored after-images from the six spectral colors. The individual differences were highly instructive. As typical are given the results obtained by four members of the class for spectral blue, the objective conditions being practically the same for all: *A*, cream (19 white plus 1 spectral yellow); *B*, light orange (19 spectral orange plus 1 white); *C*, yellow (14 white plus 6 spectral yellow); *D*, greenish-yellow (12 spectral orange plus 8 spectral green).

In conclusion, it may be said that although no exact quantitative measurements were attempted the writer believes that the experiment, as conducted, offers good evidence for the getting of an after-image from a mental image. It is, however, admitted that possibility of error was not wholly overcome; most serious being the effect of subconscious memory and, consequently, self-suggestion. The subject, who commenced the study of psychology this September, had, at its close, the object of the experiment carefully explained to her and her opinion was asked as to the results. Personally she is convinced of getting after-images from her mental images but, of course, her testimony has no absolute value. The reader may draw his own conclusions from the tables given below.

TABLE I.

MENTAL IMAGE.						AFTER-IMAGE.		
Date.	No.	Color.	Form.	Back-ground upon which thrown.	Time of holding.	Color.	Form.	Back-ground upon which thrown.
Dec. 1, '99	1	Orange	Cross	White	20s	White.	Cross	White
Feb. 7, '00	2	"	"	Black	45s	Green, orange and lavender in sections.	No record	Retinal light
"	3	"	"	"	—	Violet.	Cross	"
Mar. 7, '00	4	"	"	White	30s	Violet (spectral).	"	"
Mar. 14, '00	5	"	"	"	40s	Violet or purple with green edge.	"	"
"	6	"	"	"	40s	Deep violet, little green around edge.	"	"
"	7	"	"	"	40s	Orange with spectral violet around.	"	"
Mar. 22, '00	8	"	Circle	"	45s	Hellotrope. Matched on color-top (shade of violet 12, orange 8).) ("
"	9	"	"	"	35s	Green (10 sec.) then violet shade.	Circle	"
Sept. 28, '00	10	"	Disc	Black	15s	Violet.	Dis't Disc	"
Oct. 23, '00	11	"	"	White	30s	Blue-violet (then green around the violet. Green had been suggested).	Disc	"
Oct. 24, '00	12	"	"	"	20s	Violet-blue (blue had been suggested).	"	"
"	13	"	"	Blue Square	20s	No result.	"	"
"	14	"	"	Blue square	20s	Big yellow square with little violet disc inside. Around yellow square a margin of blue.	Disc	"

SUMMARY OF RESULTS FOR ORANGE. (TABLE I.)

Total number of experiments, 14.

Number of experiments without result, 1.

After-color: Violet hues, 12; orange, 2; white, 1; green, 5.

(Note.—In No. 5 and No. 6 the green appeared as a border edging the violet; in No. 2 as a section accompanying orange and lavender; in No. 9 green appeared first, giving way after 10 seconds to violet; in No. 11 green had been suggested as after-effect and it appeared around the violet after the subject had made an effort to visualize it.)

EXPERIMENT WITH PRESENTED ORANGE.

On the closing of the eyes, after they had been stimulated for 30 seconds by spectral orange upon a white background, the after-image was described as bluish-green and matched by 8 spectral blue plus 12 spectral green. The subject observed that the orange she visualized was not as red as the spectral orange. She matched from memory the orange she had been visualizing as $9\frac{1}{2}$ spectral yellow plus $10\frac{1}{2}$ spectral orange. The after-image from this was matched by 2 light green plus 18 spectral violet.

TABLE II.

MENTAL IMAGE.						AFTER-IMAGE.		
Date.	No.	Color.	Form.	Back-ground upon which thrown.	Time of holding.	Color.	Form.	Back-ground upon which thrown
Dec. 1, '99	1	Blue.	Cross.	White.	20s	Yellow.	Cross	White
"	2	"	"	Seen in air.	20s	Red with violet tinge.	"	Retinal light
Feb. 7, '00	3	"	"	Black ?	30s	No results.		"
"	4	"	"	"	30s	"		"
Mar. 7, '00	5	Spectral	"	White.	30s	Dark green changed to spectral yellow.	Cross	"
"	6	"	"	"	35s	Green with yellow outside.	"	"
Mar. 14, '00	7	Blue tint.	Disc.	"	35s	Yellow with pink border.	Disc	"
"	8	"	"	"	35s	No results.		"
"	9	"	"	"	35s	"		"
"	10	"	"	"	50s	Spectral yellow not bright.	Disc	"
Mar. 22, '00	11	Spectral	Cross.	"	35s	No results.		"
"	12	"	Circle	"	50s	Spectral yellow.	Disc	"
Sept. 28, '00	13	"	Disc.	Black.	22s	No results.		"
"	14	"	"	"	20s	Yellow streak.	Streak	"
Oct. 23, '00	15	"	"	White.	15s	Bright yellow streaks.	Streaks	"
"	16	"	"	Red square.	No Rec.	Big green square with small red disc inside, then blue disc.	Disc	"
Oct. 24, '00	17	"	"	White.	20s	Yellow then red. Red had been suggested.	"	"
"	18	"	"	Orange square.	23s	Greenish-blue square which changed to violet square, then yellow appeared around edges of the violet.		"

SUMMARY OF RESULTS FOR BLUE. (TABLE II.)

Total number of experiments, 18.

Number of experiments without result, 7.

After-colors: Yellow, 9; red, 3; green, 2; pink, 1.

(Note.—In No. 17 red had been suggested as after-image. It came with effort after the yellow had been suppressed. In No. 7 the pink was matched by 10 orange plus 10 white.)

EXPERIMENT WITH PRESENTED BLUE.

On the closing of the eyes, after they had been stimulated for 30 seconds by spectral blue upon a white background, the

TABLE III.

MENTAL IMAGE.						AFTER-IMAGE.		
Date.	No.	Color.	Form.	Back-ground upon which thrown.	Time of holding.	Color.	Form.	Back-ground upon which thrown.
Dec. 1, '99	1	Yellow	Cross	White	20s	Red.	Cross	White
"	2	"	"	"	20s	No results (eyes tired).	"	Retinal light
Feb. 7, '00	3	"	"	Black	40s	Deep green.	"	"
"	4	"	"	"	40s	"	"	"
Mar. 7, '00	5	"	"	White	30s	Green, gentian pink or violet around edges.	"	"
Mar. 14, '00	6	"	"	"	35s	Green.	"	"
"	7	"	"	"	40s	Green then violet at top.	"	"
Mar. 22, '00	8	"	Circle	"	40s	Green, not vivid, (10 green and 10 white).	Circle	"
"	9	"	"	"	35s	Blue tint, small.	"	"
Sept. 28, '00	10	"	Disc	Black	20s	Yellow.	Disc	"
"	11	"	"	"	15s	Green and violet.	"	"
Oct. 23, '00	12	"	"	White	25s	Blue disc with yellow.	"	"
"	13	"	"	"	20s	Blank interval then violet. Violet had been suggested.	"	"
Oct. 24, '00	14	"	"	Violet square	25s	Big yellow square; inside of it orange and blue discs.	"	"
"	15	"	"	Green square	17s	Big pinkish-red square, no disc. Light blue of no definite shape ar'd the disc. This blue was probably due to contrast and is omitted in the summary.	"	"

after-image was described as yellow and matched by 5 orange plus 15 yellow. The blue visualized was judged to be somewhat lighter than spectral blue.

TABLE IV.

MENTAL IMAGE.						AFTER-IMAGE.		
Date.	No.	Color.	Form.	Back-ground upon which thrown.	Time of holding.	Color.	Form.	Back-ground upon which thrown.
Dec. 1, '99	1	Violet.	Cross.	White.	20s	Orange or deep yellow (yellow 9 and orange 11).	Cross.	White.
"	2	"	Triangle.	"	20s	Violet with orange around.	Triangle.	"
"	3	"	Cross.	In air.	20s	9 yellow + 11 orange.	Cross.	"
Feb. 7, '00	4	Light Violet.	"	Black.	30s	2 yellow + 18 orange.	"	Retinal light.
"	5	"	"	"	30s	2 yellow + 18 orange.	"	"
Mar. 7, '00	6	Violet (Spectral).	"	White.	30s	Orange in center, green outside. When eyes opened quickly saw violet; when closed, orange-yellow.	"	"
Mar. 14, '00	7	Violet.	"	"	30s	Orange, green for an instant at one corner.	"	"
Mar. 22, '00	8	Light Violet.	Circle	"	45s	Orange.	Circle	"
Sept. 28, '00	9	"	Disc.	Black.	12s	Two squares; one orange ($7\frac{1}{2}$ yellow + $12\frac{1}{2}$ orange), the other violet with green at bottom. The green and violet square vanished first.	"	"
Oct. 23, '00	10	Violet.	"	Yellow square.	15s	Large violet square, small yellow disc.	Disc.	"
Oct. 24, '00	11	"	"	White.	No record	Nothing, then blue. Blue had been suggested as an after-image.	"	"
"	12	"	"	"	20s	No result.	"	"
"	13	"	"	Yellow square.	15s	Large violet square, a small yellow disc within.	"	"

SUMMARY OF RESULTS FOR YELLOW. (TABLE III.)

Total number of experiments, 15.

Number of experiments without result, 2.

After-colors: Violet or blue, 7; yellow, 2; red, 1; green, 7.
(Note.—In No. 5 and No. 7 the violet edged the green. In

TABLE V.

MENTAL IMAGE.						AFTER-IMAGE.		
Date.	No.	Color.	Form.	Back-ground upon which thrown.	Time of holding.	Color.	Form.	Back-ground upon which thrown.
Dec. 1, '99	1	Red.	Cross.	White.	20s	Black.	Cross.	White.
"	2	Dark red.	"	In air.	20s	Dark green with red around.	"	Retinal light.
Feb. 7, '99	3	Scarlet.	"	Black.	No Rec.	Spectral yellow.	"	"
"	4	Bright red.	"	"	"	Spectral yellow.	"	"
Mar. 7, '99	5	Crimson.	"	White.	30s	Black with dark green around.	Sq.	"
Mar. 14, '99	6	Red.	No Rec.	"	No Rec.	Square, black-blue, changed to black-yellow.	"	"
"	7	"	"	"	40s	Black (probably due to self-suggestion, "I'll see black bordered with red").	No Rec.	"
"	8	"	"	"	40s	Black with yellow center. Subject tried to banish suggestion.	"	"
Mar. 22, '99	9	"	"	"	35s	Dark green.	"	"
"	10	"	Cross.	"	30s	Green.	Oval.	"
Sept. 28, '99	11	"	Disc.	Black.	20s	Red square with light green around edge.	Sq.	"
Oct. 23, '99	12	"	"	White.	25s	Green, no particular form.	"	"
"	13	"	"	"	25s	Green then violet (violet had been suggested).	Disc.	"
"	14	"	"	Green square.	No Rec.	Colors reversed. Green disc on red square.	"	"
Oct. 24, '99	15	"	"	Blue square.	25s	Large yellow square with small green square inside and blue on the outside of it.	Sq.	"
"	16	"	"	Black square.	15s	Large black square with small spot of green inside.	Dot.	"

No. 13 violet had been suggested as the after-color. The number of images with green in them is large. The writer has thought that perhaps the green image was somewhat after the

nature of a positive after-image, the retinal light modifying the yellow to this extent, as mixing black with yellow would do, but is aware that the suggestion has, under the circumstances, little cogency.)

EXPERIMENT WITH PRESENTED YELLOW.

On the closing of the eyes, after they had been stimulated for 30 seconds by spectral yellow, the after-image was described as blue and matched by 6 violet tint plus 14 spectral blue.

SUMMARY OF RESULTS FOR VIOLET. (TABLE IV.)

Total number of experiments, 13.

Number of experiments without result, 1.

After-colors: Deep yellow or orange, 11; violet, 2; green, 3; blue, 1.

(Note.—The green came each time as a border to the violet or orange. The blue was suggested as an after-effect and came after a blank interval.)

EXPERIMENT WITH PRESENTED VIOLET.

On closing the eyes after they had been stimulated for 30 seconds by spectral violet upon a white background, the after-image was described as orange and matched by 5 orange plus 15 yellow.

SUMMARY OF RESULTS FOR RED. (TABLE V.)

Total number of experiments, 16.

Number of experiments without result, 0.

After-colors: Green, 10; red, 1; black, 5; yellow, 4; violet, 1.

(Note.—In No. 7 and No. 8 the subject was conscious of expecting black, and this probably accounts for the black. In No. 13 violet had been suggested, and it appears after the green had been suppressed with effort.)

EXPERIMENT WITH PRESENTED RED.

On the closing of the eyes after they had been stimulated for 30 seconds by spectral red upon a white background, the after-image was described as green and matched by green tint.

SUMMARY OF RESULTS FOR GREEN. (TABLE VI.)

Total number of experiments, 14.

Number of experiments without result, 2.

After-colors: Violet-pink, red, and red-brown, 10; green, 3; violet, 1; yellow, 2; black, 1.

TABLE VI.

MENTAL IMAGE.						AFTER-IMAGE.		
Date.	No.	Color.	Form.	Back-ground upon which thrown.	Time of holding.	Color.	Form.	Back-ground upon which thrown.
Dec. 1, '99	1	Green.	Cross	White	20s	Yellow.	Cross	White.
"	2	"	"	In air	20s	Violet-pink.	"	"
Feb. 7, '00	3	"	"	Black	30s	No results.	"	Retinal light.
"	4	Dark Green.	"	"	40s	Red-brown (8 $\frac{1}{2}$ spectral red + 11 $\frac{1}{2}$ dark red).	"	"
Mar. 7, '00	5	Spectral green.	"	White	30s	Gentian violet (10 pink disc + 10 violet) changed to brown.	"	"
"	6	"	"	Retinal light	No Rec'd	Spectral violet.	"	White
Mar. 14, '00	7	Green.	"	White	30s	Brown (6 $\frac{1}{2}$ spectral yellow + 13 $\frac{1}{2}$ red).	"	Retinal light.
"	8	"	"	"	40s	Green in center, brown outside.	"	"
Mar. 22, '00	9	"	Circle	"	40s	Green with red in center.	Circle	"
"	10	"	Sq.	"	30s	Green, then red circle.	Sq.	"
Sept. 28, '00	11	"	Disc.	White	20s	Red blur over all changed back to green.	None	"
Oct. 24, '00	12	"	"	Black	20s	Red, then yellow. Yellow had been suggested.	Disc	"
"	13	"	"	"	20s	Blank interval, then black. Black had been suggested.	"	"
"	14	"	"	Red square	30s	Big green square with small red disc.	"	"

(Note.—In No. 12 the yellow had been suggested and it appeared after the red had been suppressed. In No. 13 the black had been suggested and it appeared after a blank interval.)

EXPERIMENT WITH PRESENTED GREEN.

On the closing of the eyes after they had been stimulated for 30 seconds by spectral green upon a white background the after-image was described as reddish-pink and matched by 2 violet-tint plus 4 red plus 14 rose-pink. The green visualized in the latter experiments was matched from memory by $9\frac{1}{2}$ black plus $10\frac{1}{2}$ spectral green, and the after-image from this was described as red and matched by 5 rose-pink plus 15 spectral red.

DISCUSSIONS AND REPORTS.

THE PSYCHOLOGY OF READING.¹

The increasing prominence of studies in the psychology of language is not due merely to their great practical value, nor to the invaluable sidelight which they throw on the theory of logic; their greatest worth, after all, lies in their direct illumination of psychological principles. Language has long been regarded by the psychiatrists as a sort of psychical microcosm corresponding in the developed consciousness, stage for stage, from simple apprehension to reactive expression, with the larger system of mental phenomena of which it is only a fragment. The monograph of Herr Zeitler must be regarded, therefore, not only as a valuable contribution to the psychology of reading, but also as a test of the general psychological theory which inspired it.

The gravity tachistoscope, which was used by Herr Zeitler as the exposure apparatus in his experiments, was designed by Wundt to eliminate some of the evident faults of the older form of apparatus. The faulty binocular accommodation conditioned by the distance between the falling screen and the object is obviated by sacrificing binocular observation altogether. The object is observed monocularly through a magnifying telescope. This increases the influence of the physiological inequalities in the single retina, but it is doubtless the best way out of the difficulty, if one will still use the falling screen. The tendency to follow the fixation point at the beginning of the fall is eliminated by placing it on a secondary screen, which covers the object until just before the exposure, when it is thrown out of the way by the falling screen. This device, moreover, permits a greater velocity in the screen at the moment of exposure, with the same height of apparatus; the exposing slit is, therefore, wider than in the older form, while the period of total exposure is larger in proportion to the period of uncovering and covering the object.

The noise of the contact between the two screens is a considerable weakness of the apparatus, since it occurs almost simultaneously with

¹ Tachistoskopische Versuche über das Lesen. Julius Zeitler. *Philos. Studien*, Bd. 16, Heft 3, pp. 380-463.

the exposure. It even compelled the subjects to undergo a course of training until they became accustomed to it.

An Atwood machine attached to the falling screen permitted a considerable variation of exposure without changing the distance of fall or the width of the exposing slit.

The universal objection to all fall tachistoscopes, viz., that the exposure is a successive and never a simultaneous one, is reduced to a minimum in the new form of the instrument. It seems probable, however, that the slower movement of the edge of the falling screen across the object is responsible in part at least, for the practice needed by the observers to accommodate themselves to the 'long' exposures of .1" when it took 4σ to uncover the object. The mere increase in exposure does not necessitate so much practice. This is proven by the experiments of Professor Erdmann and the reviewer, as well as by the exposure occurring in every normal reading pause which averages more than .2".

The distinctive feature of Herr Zeitler's article is the attempt to demonstrate that the apparent simultaneous apprehension of a word as a whole is an illusion of 'assimilation'; that the real 'apperceptive' process consists of a successive apprehension of the word, part by part, by a movement of attention from left to right, in which part of the letters of a word are passed over rapidly while the attention fastens upon the dominating letters and letter complexes.

At the beginning the author forces his analysis into Wundtian concepts as he distinguishes sharply between 'apperceptive' and 'assimilative' reading. An act of apperception occurs when a dominating letter or dominating group of letters rouses and fuses with the dispositions of similar complexes previously perceived. A word is assimilated when on the basis of the apperception of its dominating letters a secondary group of dispositions is roused connecting the dominating letters into a whole. By dominating letters the author means such letters as are particularly characteristic and readily perceived. Although his differentiation of them is not as critical as one could wish, they are apparently those letters which project above or below the body of the word and the additional middle-sized letters *x* and *z*.

'Apperceptive' reading is an immediate process conditioned largely by the objective image, and must occur in the shortest possible time, while 'assimilative' reading is a mediate process and needs a longer period for its development.

The author, therefore, endeavors to shut out the assimilative process as far as possible by reducing the interval of exposure to the

smallest practicable value. Experimentation shows this to vary from .01"—.02" for different individuals. An exposure interval of .1" would condition 'pure assimilative reading.' In assuming that the apperception proceeds from dominating letters and letter complexes, while the assimilative reading depends largely on the total word form, the author begs the whole question at issue.

The experimental expedient of reducing the exposure to a minimum in order to isolate the 'apperceptive' process from the 'assimilative,' the reviewer regards as a failure: (1) Apperceptive reading is characterized by the predominance of the objective elements in consciousness as distinguished from the subjective elements or dispositions. The minimum exposure affects precisely those objective elements, making them as faint as possible, while it exaggerates the physiological inequalities of the retina already emphasized by monocular observation. (2) Theoretically, the process of assimilation can not be limited by the duration of the external stimulus whether it is .01" or .1". It is unquestionably longer than either. (3) Experimentally, the author's own results show that the process of assimilation is so wide when the exposure is only .01" as to make his theoretical claim untenable; since the cognition and recognition of letters are both processes of assimilation (Wundt, *Gundzüge*, II., 441-442), while the observer's ability to recall the acoustic-motor name of the visual symbols is the result of an even more remote process of assimilation. (4) Lastly, the apprehension of such words as 'Rücksichtslosigkeit' and 'Aufmerksamkeitsschwaukung,' from one exposure of .01" leaves his interpretation, as well as his experimental method, without adequate foundation.

Coördinate with the author's distinction between apperceptive and assimilative reading is the distinction between reading with fixed and reading with roving attention. In respect to this distinction the communications of the observers are most explicit and interesting, making one of the most valuable parts of the paper. The apparent simultaneity of the apprehension of words as emphasized in the researches of Cattell, Erdmann and others, the author regards as an illusion of assimilation, occasioned by the rapidity of the process and the training in the succession. The roving of the attention is not held to condition a succession of letters, but a succession in the clearness of the dominating letters from left to right in an appreciable temporal succession. This succession 'may occur with the shortest exposure.' It is only subjectively appreciable with an exposure of .1" for words of over 15 letters.

In his unfortunate critique of *Untersuchungen über das Lesen* auf

experimenteller grundlage, Professor Wundt asserted that the apprehension of such long words as were read by the authors must be conditioned by a movement of the attention during the 'long' exposure of .1" plus its after-image. It was clearly a desideratum that the present monograph should demonstrate this assertion experimentally. This, however, was not found altogether easy. A movement of the attention was, indeed, discovered by all the observers with an exposure of .1" when reading words of more than fifteen letters, but 'the better the fixation the more the perception (sic!) of this movement of attention was inhibited.' At first the observers were therefore requested to let their attention rove. The report of Dr. M., probably the most accomplished subject, is characteristic and altogether worth translation. He found that "the attention moves slowly over the word image, which is quietly read. It clings longer to the dominating complexes and passes over the unemphasized parts more rapidly. The movement occurs from left to right, corresponding to the connection between the characters; it is not jerky, but is more or less rapid, corresponding with the objective image. It is a succession in that during the fluctuation of the attention from a letter complex at the left to one at the right a subjectively appreciable pause occurs. The longer the time at command the more this movement becomes an elemental one, *i. e.*, it moves from element to element."

Whatever else such reports may prove, they certainly demonstrate that the movement of attention described is not a movement which can occur within the barely perceptible time interval of .1". It becomes evident from the whole discussion that the objective succession and the wandering of the attention actually found in consciousness are in reality not a function of the visual apprehension, but of the motor-acoustic interpretation of the visual presentation. The author has brought forward no facts in his argument for successive visual apprehension of thoroughly familiar words that do not admit of a more natural interpretation through the action of the successive motor-acoustic word idea; while his experimental results demand such explanation.

That long or unfamiliar words like 'Balænoptera' and 'Rot-sämischleder' must be apprehended part by part, no one who has any knowledge of the psychology of reading will question; least of all the investigators criticised so freely by our author. To hold that the form of a word which corresponds to no residua of past experience could be the determining factor in its apprehension would be to hold a self-evident absurdity. That one may direct one's attention to the indi-

vidual letters of a word complex as the author and his subjects admit that they did, no one who has ever read proof can doubt, but this is surely not the same process as the normal reading of familiar words. But to establish the hypothesis of a roving attention in the apprehension of familiar word forms under really normal conditions of fixation during an exposure of .1" one must fly in the face of the overwhelming evidence of the author's own experiments or espouse the hypothesis of unconscious changes in attention, which is about as good psychology as the hypothesis of unconscious ideas.

The author errs in concluding from a group of experiments in which the attention is directed toward the letters and letter groups that the same process occurs when the attention, is directed towards the sense.

Moreover, a movement of attention over the field of vision in reaction to the stimulus of unrecognized parts can certainly not occur during the time when the total stimulus has not yet overcome the inertia of the retina, *i. e.*, within 10σ of the beginning of the exposure; that it might occur, according to Wundt's analysis in a somewhat shorter interval than the well-known Unterscheidungszeit is possible, but certainly not in less than one-third that interval, while the sharp fixation and total absence of the effort to let the attention wander which characterized the experiments of Erdmann and Dodge, must delay it still longer.

While the author's interpretation of his work in the form of Wundtian concepts is far from satisfactory, the experimentation itself is a valuable piece of work. Moreover, the emphasis laid on determining letter complexes which occur within the general word form is surely not altogether misplaced. The optical difference, however, between a group of letters and the same letters as constituent parts of a well-known word form seems to be as little appreciated as the psychological difference between the successive apprehension of the individual letters as such and the apprehension of that visual complex of contrasts which makes a word.

RAYMOND DODGE.

WESLEYAN UNIVERSITY.

A SCHEME OF CLASSIFICATION FOR PSYCHOLOGY.

The responsible editors of this REVIEW drew up for the purposes of the PSYCHOLOGICAL INDEX the classification of psychological material which, with certain modifications suggested by the compiler of the Index, has been used heretofore in that publication. The coöperation effected with the German and French reviews emphasized the

need of a common scheme, and Professor Warren represented the REVIEW in a conference held in Paris during the recent International Congress. The agreements reached, together with certain alterations made subsequently suggested are now embodied in the following scheme. It is thought that this scheme—having thus the authority of an international committee and embodying the opinions of experienced bibliographers of psychology—may have value for the wider use of public and private libraries, and we recommend it to all those who are interested in psychological classification. That it avoids all difficulties and inconsistencies we do not pretend to say; it embodies compromises and considerations of utility as well as those of logic.

In the division headings two alternative schemes are presented: the 'graded numerals' and the 'decimal system.' The INDEX continues to use the former; but others who wish to adopt the classification may prefer to use the decimal system.

J. MARK BALDWIN.

CLASSIFICATION.¹

- 0. I. General:
 - 0.1 1. Text-books and Systematic Treatises.
 - 0.2-0.5 2. General Problems, Methods, Terms and Apparatus.
 - 0.6 3. History and Biography.
 - 0.7 4. Collections, Proceedings, Dictionaries, Bibliographies.
- 1. II. Anatomy and Physiology of the Nervous System:
 - 1.0 1. General.
 - 1.1 2. Nerve Elements.
 - 1.2 3. Brain and its Functions:
 - 1.21 a. Anatomy of the Brain.
 - 1.22 b. Physiology of the Brain.
 - 1.3 4. Spinal Cord, Nerves and Sympathetic System.
 - 1.4 5. Reflex and Automatic Functions.
 - 1.8 6. Pathological Anatomy.
- 2. III. Sensation:
 - 2.0 1. General.
 - 2.1 2. Sense Organs (General).
 - 2.2 3. Psycho-physics (Weber's Law, etc.).
 - 2.3 4. Psychometry. (See Time Relations, IV7.)
 - 2.4 5. Vision:
 - 2.40 a. General.
 - 2.41 b. Anatomy and General Physiology of the Eye.

¹ In the matter of English terminology the recommendations of Baldwin's *Dict. of Philos. and Psychol.*, now in the press of the Macmillans, are anticipated and followed by permission (with view also to the German, French, and Italian equivalents given in that work).

- 2.42 c. Physics and Special Physiology (Dioptrics, Refraction, Accommodation, Acuteness of Vision, Perimetry, etc.).
- 2.43 d. Visual Sensations.
- 2.44 e. Special Phenomena of Vision (After-images, Contrast, etc.).
- 2.46 f. Eye Movements and Binocular Vision.
- 2.48 g. Pathology.
- 2.5 6. Hearing:
 - 2.50 a. General.
 - 2.51 b. Anatomy of the Ear.
 - 2.52 c. Physics and Physiology.
 - 2.53 d. Auditory Sensations.
 - 2.58 e. Pathology.
- 2.7 7. Other Senses:
 - 2.71 a. Taste.
 - 2.72 b. Smell.
 - 2.73 c. Cutaneous, Pressure and Joint Senses.
 - 2.74 d. Muscle sense.
 - 2.75 e. Static Senses (Position, Equilibrium, and Dizziness).
 - 2.76 f. Organic, Pleasure and Pain Senses; General Sensibility.
 - 2.77 g. Electric Sense.
- 2.8 8. General Pathology.
- 3. IV. General Characters of Consciousness:
 - 3.0 1. General.
 - 3.1 2. Attention and Apperception.
 - 3.2 3. Association.
 - 3.3 4. Dispositions.
 - 3.4 5. Habit, Accommodation, and Selection.
 - 3.5 6. Work and Fatigue.
 - 3.6 7. Time Relations; Mental Chronometry.
- 4. V. Cognition:
 - 4.0 1. General.
 - 4.1 2. Perception and Idea.
 - 4.2 3. Perception of Time, Space, and Motion.
 - 4.3 4. Memory and Imagination. (See also Dreams, IX1.)
 - 4.4 5. Judgment and Belief; Reasoning.
 - 4.5 6. Reflection and Self-consciousness.
 - 4.6 7. Normal Illusions and Suggestion.
 - 4.8 8. General Pathology.
- 5. VI. Affection (Feeling and Emotion):
 - 5.0-5.2 1. General; Pleasantness and Unpleasantness.
 - 5.3 2. Emotion and its Expression.
 - 5.8 3. General Pathology.
- 6. VII. Conation and Movement:
 - 6.0 1. General; Dynamogenesis.
 - 6.1 2. Organs of Movement. (See Muscle Sense, III7d.)
 - 6.2-6.4 3. Instinct and Impulse (Imitation, Play, etc.).
 - 6.5 4. Special Motor Functions:
 - 6.51 a. Speech.
 - 6.52 b. Handwriting.

- 6.53 c. Walking.
- 6.57 d. Other Functions. (See also Vision, III5f.)
- 6.6 5. Volition and Effort.
- 6.7 6. Freedom of the Will.
- 6.8 7. General Pathology.
- 7. VIII. Higher Manifestations of Mind:
- 7.1 1. Logic and Science; Methodology.
- 7.2 2. Theory of Knowledge.
- 7.3 3. Aesthetics.
- 7.4 4. Ethics.
- 7.5 5. Religion.
- 8. IX. Sleep, Trance, and Pathology:
- 8.1 1. Sleep and Dreams.
- 8.2 2. Hypnosis and Trance States.
- 8.3 3. Psychical Research.
- 8.4 4. General Works on Pathology.
- 8.5 5. Nervous Disease:
- 8.51 a. Developmental and Acquired Forms.
- 8.52 b. Neurasthenia and Paralysis.
- 8.53 c. Epilepsy and Hysteria.
- 8.57 d. Other Neuroses.
- 8.6 6. Mental Disease:
- 8.60 a. General (Insanity).
- 8.61 b. Idiotcy, Imbecility, etc.
- 8.67 c. Other Special Psychoses.
- 8.7 7. Medical Jurisprudence.
- 9. X. Genetic, Individual, and Social Psychology:
- 9.1 1. Evolution and Heredity.
- 9.2 2. Comparative Psychology.
- 9.3 3. Mental Development:
- 9.30 a. General; Adolescence and Senescence.
- 9.31 b. Child Psychology.
- 9.32 c. Pedagogy.
- 9.4 4. Individual, Sex, and Class Psychology.
- 9.5 5. Folk Psychology.
- 9.6 6. Social Psychology.
- 9.8 7. Pathology:
- 9.81 a. Criminology.
- 9.82 b. Degeneration.

A DISCLAIMER.

The attention of the undersigned has been called to the fact that an organization known as 'The American College of Sciences,' situated in Philadelphia, is issuing circulars advertising a course of instruction in hypnotism as prepared in part by them. These circulars contain many statements about hypnotism and about the advantages to be derived from its study and practice which are not justified by the

articles written by the undersigned, which in their judgment cannot be substantiated by any facts known to science, and which they believe to be in the highest degree misleading. Furthermore, the undersigned are of the opinion that the practice of hypnotism by the general public is attended by dangers which have no compensating advantages, and would in no case countenance any scheme which encourages its practice under such conditions. They feel it incumbent upon them, therefore, to make public a statement of the circumstances under which these articles were written.

Each of them was requested, individually, by 'The New York State Publishing Company,' of Rochester, N. Y., to prepare an article for a collection of such articles. Inquiries made of this company elicited no suggestion that the collection was to be issued by any other than the usual method of publication and sale, and the articles were contributed by the undersigned without any knowledge or suspicion that they would be used as constituent parts of a course of instruction in hypnotism. Had they known that they would be so used, they would have refused to contribute the articles in question. They now disclaim all responsibility for the methods adopted by the American College of Sciences and for all statements made in its publications, excepting only those found in the several articles above referred to, and for them their individual authors are alone responsible.

While the position of the undersigned on these questions is perhaps already sufficiently well known to the academic world, they feel that this disclaimer is due to the general public.

(Signed) J. MARK BALDWIN, *Princeton University*,
 W. P. CARR, *Columbia University*,
 E. W. SCRIPTURE, *Yale University*,
 J. W. SLAUGHTER, *University of Michigan*,
 ALFRED REGINALD ALLEN, *Philadelphia Poly-
 clinic Hospital*,
 GABRIEL CAMPBELL, *Dartmouth College*,
 ARTHUR MACDONALD, *U. S. Bureau of Educa-
 tion*,
 JAMES H. LEUBA, *Bryn Mawr College*,
 ROBERT M. YERKES, *Harvard University*,
 CLARK WISSLER, *Columbia University*,
 ERNEST CARROLL MOORE, *University of Cali-
 fornia*,
 EDWARD H. ELDRIDGE, *Temple College*,
 WILLIAM ROMAIN NEWBOLD, *University of
 Pennsylvania*.

PSYCHOLOGICAL LITERATURE.

RECENT WORKS ON ETHICS.

Elements of Ethics. NOAH K. DAVIS. Silver, Burdett & Co., New York. Pp. iv + 288.

Introduction to Ethics. FRANK THILLY. New York, Scribners. 1900. Pp. xi + 339.

Ethics and Religion, A Collection of Essays, Edited by the Society of Ethical Propagandists. London, Swan, Sonnenschein & Co. 1900. Pp. ix + 324.

The Ethical Problem. PAUL CARUS. Second edition enlarged. Chicago, Open Court Publishing Co. 1899. Pp. xxiv + 344.

Problems in Ethics or Grounds for a Code of Rules for Moral Conduct. JOHN STEINFORT KEDNEY. New York and London, G. P. Putnam's Sons. 1900. Pp. xx + 252.

Dr. Davis takes the notion of 'a right' as his point of departure for the construction of an ethical system. "The problem before us is: Given the simple idea or notion of a right; to find all forms of obligation." "These rights are grounded in the very constitution of human nature," which is accordingly assumed as the 'basis' of ethics. (pp. 38, 41, 209). Combining these two ideas, we have thus a return to the eighteenth-century theory of Natural Rights as the foundation of moral philosophy. Into a discussion of the doctrine of Natural Rights (obsolete save as advocated by Mr. Spencer) we do not propose to enter; it should be noted, however, that the strong individualism of this doctrine is inconsistent with what the author calls the 'modified altruism' of his own ethical theory. Why it is called *modified* altruism is not quite obvious, since he holds that 'all righteous conduct is disinterested, is unselfish' (p. 151), and that moral obligation wholly 'excludes self as an end' (p. 148); 'self is never, can never be, a moral end.' The moral law, however, "does not call for * * * the extinction of the natural and healthful desire for one's own welfare." Nor does it "prohibit anyone from acting in a way that shall benefit himself, but only from thus acting in order that he may benefit him-

self" (p. 165). Thus it appears that one may desire one's own welfare, but may not seek it. Personal welfare is not prohibited by moral law provided it be unsought, *i. e.*, comes as an accident. It should indeed be sufficiently obvious that the accidental has no moral quality. It is less obvious why that which is a legitimate object of moral desire may not be sought. Nor is it clear how a doctrine based upon the 'claims' which I have upon others and they upon me—which claims compose our 'rights'—can forbid me, in whom certain claims vest, to regard myself as in any sense an end. Nor is this position consistently held. For Dr. Davis, in speaking of the 'right to service,' *i. e.*, to the beneficent action of others towards self, says that "if I myself be used as a mere tool * * * I am indignant" (p. 165), which surely implies that I do regard 'myself' as an end worthy of consideration, and is virtually a falling back into the Kantian doctrine which Dr. Davis repudiates. Thus the claim to the service of others is made to rest upon an egoism which has been cast out naked and disgraced. And indeed it is difficult to see how a theory which is based upon the rights of individuals can completely ignore the individual who unfortunately happens to be myself. According to the atomistic conception of society, it would be more logical to say with Bentham that everybody is 'to count for one,' myself included. Kant, moreover, does not say that I am to 'make myself in mine own person an end' (p. 166), but that I am to 'regard *humanity*, whether in mine own person or in that of another, as an end withal'; which is a different matter.

It may be noticed in this connection that Dr. Davis seems to fail of understanding Kant. In commenting on the passage in which Kant says that "an action done from duty must wholly exclude the influence of inclination," Dr. Davis says: "The implication is that love is not a duty; for this conception of obligation excludes all personal inclination, teaching that an action determined by love alone is not a moral action, and that one wherein love mingles is morally impure, being contaminated by inclination." "We heartily reject a scheme of ethics implying that a man is under no obligation to love his mother or his country, but should purify his character by eliminating all such inclinations; a scheme that clearly, distinctly enacts: Thou shalt not love thy neighbor." (pp. 169-171). Poor old Immanuel Kant must feel that the right to have humanity regarded as an end in his own person is a right which does not extend to immortals; but instead of turning in his grave, we can imagine him only smiling sadly on learning that Christ's parable of the good Samaritan, though

less abstruse than the critical philosophy, also lends itself to misinterpretation. (See note, p. 175.)

Dr. Davis not only misreads Kant, but apparently falls into several of the errors of which he accuses the latter. "An action conforming to moral law is a virtuous action. This qualification implies a contrary inclination overcome by will," etc. When, however, the virtuous desires prevail more and more uniformly until "all struggle, all conflict has ceased, the victor, because of his victory, is dubbed a perfectly virtuous person" (p. 139). That is, in other words, a virtuous action implies contrary inclination, but a virtuous person is one who experiences no such opposition of duty and inclination.

Again, while condemning any theory of morals which looks to self as an end, the author says that the doctrine of the present treatise is that of the Stoics, that 'whatever is natural is right' (p. 151 note). But "it is undeniable that selfishness generally prevails and is dominant" (p. 153). If selfishness is dominant it must be 'natural,' according to the common implication of that word; and if natural, then right. Yet all right conduct must be unselfish. Moreover, if whatever is natural—*i. e.*, native or constitutional—in human nature is right, how can we exclude those impulses and emotions which terminate upon self as the end, and constitute an important part of that 'life' which is regarded as a primary natural right? It is obvious that some deeper hidden meaning must lurk in the word 'natural' as used by our author. Yet even with the qualifying definitions presently introduced, human nature and the reciprocity between human beings prove to be an inadequate basis of ethics. True to his principle that obligation is based upon natural rights, which imply a relation between two or more persons, Dr. Davis holds that the isolated man "has no responsibility, is not a moral being." "With him nothing is either right or wrong" (p. 217). Robinson Crusoe then is not under moral law. Yet on the next page but one it is said: "But should he reasonably despair of a return among men, still he may not neglect his personal dignity, or ever, even under the greatest suffering, take his own life. * * * He is bound by indissoluble obligation to his maker," etc. (p. 219). Thus it appears that human nature and human reciprocity do not after all furnish of themselves a sufficient basis of individual ethics. Nor, even with the help of the conception of the 'unity of mankind,' does Dr. Davis transcend his individualistic standpoint. Thus a curious limit (due to the author's individualistic point of view) is set to the sphere of moral action of the State, which he regards as a 'personality,' with 'a conscience of its own' (pp. 259,

270). Why, it may be asked, if we are to think of mankind as an 'organic unity,' and of the State as an ethical personality, is not the State bound to the same law of 'loving service' as other personalities?

There is a way of transcending eighteenth-century individualism; not that of Professor Davis, but a way foreshadowed by Kant, in whose day the conception of society as an organism and of the spiritual unity of mankind was not as familiar as it is to Dr. Davis. When Kant says that we are to treat humanity as an end, and when further he refuses to find this end in any existing community of personal relations, but in an ideal to be realized by humanity collectively and separately, we have altruism laid upon us as a moral obligation because we 'are members one of another,' while the rights of personality, or the worth of the individual, follow from the fact that 'ye are all of one blood.' We possess individual rights, and both egoistic and altruistic duties are incumbent upon us, not in virtue of our claims as individuals, but in virtue of our all partaking of that common higher life which we all potentially possess and which it is our duty severally and collectively to make actual. It is the presence of this ideal—which Dr. Davis also recognizes—which is not derived from the 'constituted order of nature,' but is imposed upon it by human thought as the norm to which nature should conform, the recognition by man of "an opposition between his desire for the realization of the ideal self and his desire for the gratification for the lower self, an opposition between the life of spirit and the life of nature,"¹ that constitutes the idea of duty. Whoever would preserve an obligatory morality must start with the recognition of this opposition.

It is obvious, therefore, that Professor Davis must in some way modify the doctrine already referred to, to the effect that whatever is natural is right and that the basis of ethics is 'the natural constitution of man.' The words 'nature' and 'natural' are in fact ambiguous. 'Nature' usually means what *is*; but 'natural,' as has frequently been pointed out, is often equivalent to 'normal,' and the latter word implies the notion of a rule or standard by which things are judged and to which they *ought* to conform (vid. Ritchie, 'Natural Rights,' Ch. IV.). It is in this, the ethical sense, that our author uses the word 'natural,' for which he ordinarily, though not invariably, substitutes the word 'normal.' By the 'natural' man he means the 'normal or rehabilitated man'—*i. e.*, 'not man as he is, but man as he should be' (pp. 38, 39). Dr. Davis in fact, in spite of a somewhat ambiguous way of expressing himself, really means to inculcate a sound idealistic

¹ Professor Watson, 'Introduction to Philosophy.'

imperative morality. Rights have their ultimate ground in the desires which motive action; and the primary principle of ethics is that man has a right to gratify his normal desires (p. 45, 46). When it is elsewhere said that "the normal is pleasurable, the abnormal painful" (p. 154); and again, "Normal desires, or such as have an instinctive rise and are in accord with the general order of nature, impel toward the fulfillment of the appropriate functions of the man in a world of persons and things" (p. 46), it is not to be imagined that Dr. Davis intends to make either pleasure or instinct the criterion of right conduct. Since, however, we are not told anything about 'the general order of nature,' nor what are 'the appropriate functions of the man,' we may as well fall back upon the conception of normal.

"A man's malevolent desires," we are told, "are in general abnormal in kind, since they do not conform to the normal principles of the human constitution." This does not help us. Duty consists in the gratification of normal desires. Normality is the standard of duty, but what is the criterion of normality? Benevolence is the primary duty; is benevolence, then, obligatory because it is normal, or is that normal, and hence duty, which is benevolent? Apparently the latter; for the end of moral conduct is welfare, and benevolence is the condition of welfare. It may be imagined that here then we have the ethical standard of which we are in search; and if so, why not forsake 'nature' and abandon the various ambiguous formulæ employed and follow the notion of welfare as our guide? We are attempting, be it remembered, to find some explication of those 'normal desires' in the gratification of which duty is said to consist, and have been led to the conception of welfare. "We are, then," in words of the author, "in great need to know, clearly and distinctly, the meaning of welfare." When, therefore, welfare is defined as 'the gratification of normal desires,' and is said to consist 'in the constant gratification of right desires' (pp. 188, 189), the reader may begin to suspect that he is the victim of some trick. Welfare is defined with reference to normal desires, and the latter in turn by the notion of welfare. Only such gratification of normal desires, however, is allowable as does not interfere with the rights of others. Hence the primary law receives this important modification: Do not trespass. Since a trespass, however, is any violation of the rights of others to gratify their normal desires, this brings us no nearer the definition we seek.

Whether 'the natural constitution of man' or the notion of welfare is to be taken as the ultimate criterion of morality, is not made as clear as might be. We incline to the latter view however, since,

although all desires are natural in the sense that they pertain to human nature (selfishness in this sense would appear to be the most natural, since it is dominant), only some are normal. When it is said that the affections (by which the author means the altruistic or 'giving' desires) are naturally paramount, this must mean that they are normally supreme, and they are manifestly normally supreme in view of the fact that they chiefly further welfare.

Briefly stated, Dr. Davis's ethical theory comes to this: that one should seek with no thought of self to promote the welfare of others and thus involuntarily secure one's own happiness. If happiness be set up as the direct personal end of conduct, it will prove unattainable. "The only possible way to it is through its condition welfare. Hence wisdom disregards happiness as an end, not looking beyond welfare, but seeking this as the end of all endeavor. This attained, happiness results by a benign law of human nature." But surely happiness may be the supreme end, though it be necessary to seek it indirectly. Welfare, which Professor Davis elsewhere (p. 210) defines as consisting 'of liberty and continuous success in the exercise of benevolence and beneficence,' might be the best means to the attainment of the end, and still not the *summum bonum*; and the mere fact that happiness cannot wisely be directly sought would not of itself prove that it is not the ultimate (though it may not be the proximate) end. Dr. Davis, however, clearly intends to make welfare and not happiness the moral end. And although welfare, the 'principal element' of which is virtue (p. 187), is apparently made to include happiness as part of its content, no stress is laid upon this synthetic conception of the end, the happiness element of which is persistently held to constitute an unlawful aim for the individual. Dr. Davis, in short, seems to fall back upon the old 'be good and you will be happy' theory. For theoretical purposes however it is impossible to identify virtue and happiness, and it is necessary to distinguish them as separate ethical ends. It is of course possible, and we think it is correct, to hold that the moral ideal is not simple, but complex, and includes both virtue and happiness, the best expression for this synthetic end probably being self-realization. But Dr. Davis apparently holds that virtue (which is summed up in benevolence or loving-service, in which the individual's welfare is said to consist) is the end for the individual agent and happiness the end for everybody else. This again seems a curious conclusion for a theory professedly based upon human nature, in which assuredly the individual partakes. Or, stated still more individualistically, society, though metaphorically spoken of as an organism, is

nevertheless constituted of individuals, and what is good for the greatest number, or for the whole, must surely be good for the individuals which make up that whole.

Professor Thilly is a pupil and follower of Paulsen. Not only is his ethical position fundamentally the same as Paulsen's, but he has caught much of the master's spirit, and his clearness of exposition, lucidity of diction, and simple and natural arrangement of material, have united to make an excellent introduction to ethics.

Having said this much by way of appreciation, a word of criticism growing out of our inability to agree with the author as to the nature of ethics must not be deemed ungracious. Two of the chief problems of ethics—Conscience and the Highest Good, psychologically considered—the author discusses with sufficient fullness for the purpose of his book. He holds the Spencerian or naturalistic view of Conscience, and the Aristotelian doctrine of the Highest Good. But the question of Obligation, the central problem of modern ethics, is less satisfactorily handled. This defect arises from the author's conception of his subject; for he (wrongly as we think) regards ethics not as a normative but as a descriptive science. "It is the business of a scientific ethics to study the moralities that is, to investigate the rules of conduct which men *feel* as moral, and discover the principle which gave rise to them. If we find that there is such a principle and that men tacitly assent to it, we shall understand the genesis of morals. We shall be able to see where men have bungled in their blind attempts to apply the principle, and we shall be able to distinguish more intelligently between the right and the wrong. After we have found the ideal which is vaguely guiding the destinies of mankind, we of the present time can ask ourselves whether we are realizing it in our own conduct." Morality is means to an end, and its rules are justified when they further this end. But we cannot justify the end itself. Man desires this end *absolutely*; "but why he should desire what he desires is a mystery which we cannot solve" (pp. 139-141).

In other words, ethics, as Professor Thilly consistently holds, is a branch of psychology. This psychology of morals is in itself an interesting and important study, to which Professor Thilly has a perfect right to confine his attention if he choose, but surely it is untrue to say that here (in the determination of the end actually desired) "we have reached the bed-rock of our science, here we have a true categorical imperative which commands absolutely and unconditionally" (p. 141).

For 'desired' end may mean either simply the direction our impulses and desires are consciously or unconsciously taking, or it may mean 'desirable' end, *i. e.*, the end which is to be rationally desired. In the former case, it is obviously absurd to say that man *ought* to desire what he does and *must* desire because the forces of nature have made him desire it. In the latter case this rationally desirable end can only be determined by our conception of the nature of man and his relation to the universe at large, *i. e.*, metaphysically. Suppose, however, this desirable or ideal end to have been determined; it is also commonly conceived of as something which men '*feel that they ought*' to realize. Our ideals change their content, but the changing ideal is accompanied by an ever-present consciousness of obligation to realize the existent ideal. In this sense obligation seems to us the ultimate conception in ethics. At any rate, we must hold on to obligation if we would conserve morality; at least until we reach that stage of 'absolute' morality of which Mr. Spencer speaks. We must also seek to justify the moral imperative, if we would be true to ourselves as rational beings. There is no need to deny the difficulty of this undertaking; nevertheless it would seem to be incumbent upon those who define ethics, even 'roughly,' as 'the science of duty,' as Professor Thilly does, to devote especial attention to this difficult problem.

Now it is obviously one thing to say that men desire pleasure, or the normal development of their powers, or that the end they seek to realize is perfection, and quite another thing to say that they ought to desire and seek any of these. It is one thing to say, if you desire a certain end you ought to observe certain rules of conduct; and another thing to say, you ought to desire and to strive to realize a certain end. It makes all the difference where you put the ought; how you formulate the ethical problem. Professor Thilly's imperative is purely hypothetical, as he elsewhere shows. As he conceives of the science of ethics, his treatment is fairly adequate. But if ethics deals not simply with the Is but with the Ought to Be, as we hold, then his theory is notably deficient. He does not indeed ignore the problem of obligation. He accounts psychologically for the Categorical Imperative by giving a genetic account of 'the feeling of obligation within us.' But even if we should grant the truth of this natural history of the feeling of Oughtness, it may well be asked whether this is sufficient. It is not true that "when we have explained this feeling [*i. e.*, shown how it has developed in us] we have explained the Categorical Imperative" (p. 133). "The mere observance of facts," as Mr. Thilly remarks, "will lead to nothing." Facts are not reasons, history is not philos-

ophy. The natural history of a process does not of itself furnish an explanation of the meaning of the process, either in the moral or the material world. If the moral law has a meaning as well as a history then we *must* justify the end which we say is obligatory, and we must further inquire into the ultimate meaning of obligation. An objective grounding of the consciousness of moral obligation may or may not be possible, but in our view this inquiry falls within the scope of ethics. This of course is one of those *ultimate* problems which Professor Thilly modestly hands over to the philosopher to solve (p. 20), and it may be thought that one should not take exception to this division of labor; but aside from the fact that in our view some of these ultimate problems constitute just the most important part of ethics, it may be added that in our experience the class of readers for whom an elementary text-book is intended are apt to be quite as much interested in the question what the moral law means and why man should obey it, as in the question how this law originated and developed in human consciousness. There is no doubt a plausible excuse for thus avoiding ultimate problems in an elementary text-book, owing to the recognized difficulty of treating philosophical questions in an elementary and popular manner; but the difficulty is inherent in the nature of the subject and cannot legitimately be evaded.

The history of ethics seems to teach that our choice must lie between the naturalistic ethics of evolution and some modified form of the Kantian position; but Professor Thilly does not seem to us to have gone far enough in working out the compromise he claims (p. 171). It is of course possible, in Spencer's words, quoted with approval by Professor Thilly, "to agree with moralists of the intuitive school respecting the existence of a moral sense, while differing with them respecting its origin." But this is not the important point at issue. The fundamentally important issue is: given the sense of obligation, what is its real significance, and how does the question of its origin affect this? In other words, the question of origin is not identical with the problem of validity. The evolutionary account of the origin of the feeling of obligation may or may not be true to fact; and if true, it may or may not destroy the authority of conscience. But the latter question is precisely the one which the theories of evolutionist moralists have made it most incumbent upon themselves and us to answer, and to which they have made but scant contribution. Professor Thilly appreciates the problem, and in a few words (p. 112) indicates what appears to us so true a view of it that it seems a pity he had not made it his own and worked it out more fully. But the

authority attributed to the moral sentiments according to the view hinted at on page 112 is very different from Spencer's view that "they have a coördinate authority with the inductions of utility" (p. 71). The 'inductions of utility' command conditionally, but Kant's imperative is categorical. Professor Thilly indeed says: "It cannot be proved that one *ought* to strive after some highest good; this is matter of feeling." If this be taken to mean that here is a Categorical Imperative which is an ultimate fact of human nature and beyond this we cannot go, we have a falling back into a type of intuitionism, which, while it conserves Oughtness, leaves it 'in the air.' On the other hand, the naturalistic (which is not identical with the genetic) account of the origin of the feeling of Oughtness, is in danger of robbing the latter of its sanctity and authority by reducing it to the level of a useful instinct; and for an ethic based upon this principle there can be no other logical 'end' than the utilitarian one of preservation and pleasure.

If it be denied that these are the supreme ends which all men do actually desire, it is still difficult to see how the psychological determination of what man desires (be it any end whatsoever), or the biologico-psychological history of how he came to desire what he desires, can ever issue in the ethical proposition that he *ought to desire* a certain end (no matter how defined). The highest good is the ideal, and Professor Thilly identifies 'this ideal' with the categorical imperative (p. 145); that is, it is an obligatory ideal. But Professor Thilly elsewhere says (p. 252): "Different persons may have different ideals (meaning by ideals the direction which their impulses are taking, whether they are conscious of it or not)." Could animals, then, be said to have ideals? And if so, what is the difference between the instinctive actions of animals and the moral conduct of human beings? An ideal is surely an *idea* to be realized. But according to the above definition of an ideal, which is farther identified with the categorical imperative, animals would also be under a categorical imperative. If the ideal, the highest good, is what man actually desires and wills, and has no other meaning, it is absurd to say that 'he ought to strive after' it. But if the sense of obligation is an ultimate fact, as Professor Thilly would seem to hold in the sentence quoted, then the ideal cannot be identified with the direction which our conscious or unconscious impulses happen to be taking, for obligation implies the antithesis of the actual and the ideal. There seems to be a lack of clearness in Professor Thilly's thought as to the relation between obligation and man's actual impulses and desires, which prevents us from recognizing the reconciliation of Kant and Spencer as complete.

The fundamental point, however, is not as to the 'derived' or 'underived' character of the sense of moral obligation, but as to its significance; for the obligatory character of the moral ideal depends not upon the time-relation of its origin, but upon its *meaning*.

We reach the crux of the matter, therefore, in Professor Thilly's contention that intuitionism and teleology are not necessarily antagonistic (p. 151 seq.); and this is true. But intuitionism commonly seeks some more ultimate basis of the moral law than the feeling of obligation itself, and teleological morality must do the same. In order to this, teleology must be applied to the universe and not simply to rules of conduct. That is, teleological morality must mean not merely that rules of conduct are good or bad simply as they further or hinder the end actually desired by man, this desired end itself being the product of a natural or non-moral process, but that the universe is propulsive, and that the moral law is the subjective expression of a moral world-order, and the Highest Good assumes the form of a Categorical Imperative because grounded in the nature of the Absolute Good. If the moral ideal be regarded as 'prophetic' in character, *i. e.*, as indicating the real inner meaning of the whole evolutionary process and as pointing towards its final goal, then it is ultimately based upon the true inward nature of things, of which it is at present the most perfect manifestation. We may then recognize a certain opposition between the 'cosmical' and the ethical process, while still maintaining that they are both '*part and parcel*' of the general process of evolution,' the real significance of which as a whole is to be interpreted not in terms of its earlier but of its later stages. From this point of view the whole world-process is at bottom a moral order, of which the physical and the ethical are simply higher and lower phases, less and more perfect manifestations. And if this be so, if the natural order is in the last analysis a moral order, if man at his highest and best is made in the image of God, and his Ideal is also the Real, if his 'true nature' is essentially identical with the essence of the All-Real, which cannot be otherwise conceived than as altogether Good, then the ultimate basis and authority of the moral law is not simply in his own nature, still less in external nature, but in the heart of the universe, in the divine Thinker, whose thought is progressively revealed in the whole sphere of phenomenal existence. The physical universe is an unconscious manifestation of this revelation. It is a mirror which reflects what is thrown upon it—it is passive, is acted upon, but not active, is bound fast in the causal chain of natural law, has power of itself neither to further nor to hinder moral ends of which it is not even conscious. Man, however, is both a part

of nature and superior to it. He sees the vision of the Good and may consciously follow it. The vision is a subjective experience, has no prototype in the external world; yet it is no vision merely, but the shadow of the Real. It is this vision, this ideal, which is not born of man's sentient being, but springs from his spiritual, rational nature, and is the image of the heavenly, that becomes a categorical imperative, the law of his life. Thus man is both autonomous and at the same time under law; autonomous in that his self-legislation is in accordance with the demands of his own moral nature; under law in that he reflects or reenacts the absolute law of God.

If it be objected that this is to found ethics upon metaphysics, the fact must be admitted. But we do not first start with a philosophy of the universe, and deduce our theory of morals therefrom. We start with the facts of the moral life. If we can reach no final interpretation of these without the aid of metaphysics, that is a misfortune which has often overtaken naturalistic moralists unawares. For it is not a question of having or not having any metaphysics, but it is a question of *what* theory of the universe one prefers.

We therefore agree with Dr. Paul Carus ('The Ethical Problem') in criticising the societies for ethical culture because they do not furnish any 'basis of ethics.' The book entitled 'Ethics and Religion' consists of twelve essays, the majority of them written ten years ago, by men who have been founders or influential friends of ethical societies. These essays are all as readable as one would expect from the distinguished names of their authors—J. R. Seeley, Felix Adler, W. M. Salter, Henry Sidgwick, G. von Gizycki, Bernard Bosanquet, Leslie Stephen, Stanton Coit, J. H. Muirhead. As stated in the preface: "They are unanimously insistent upon one point," viz., "that an ethical society should hold itself uncommitted to any theory of the universe, and should not be primarily interested in the metaphysic of ethics." "Coöperation for moral ends is the aim of the societies." "An ethical society is an institution not for the advancement of ethical theory only, but also, and preëminently, for the improvement of ethical practice" (Felix Adler, pp. 31, 38). "The aim of the ethical movement is moral regeneration" (*Ibid.*, p. 58).

With this aim everybody must surely be in profoundest sympathy; and for the greater efficiency of a society which claims this high function it is perhaps wise that the bond of its members should be not a common doctrine, but a common practice, a common enthusiasm for moral improvement (pp. 48, 49). Certainly it would be a bad outlook

for the material betterment and moral elevation of mankind if all those interested in any philanthropic enterprise or moralizing endeavor had to be first agreed in theoretical principles. But this is only one side of the shield; for it is commonly understood and often proclaimed by the leaders of the ethical movement that the *raison d'être* of the ethical societies is not simply the fact that the churches alone do not and cannot do all that ought to be done toward elevating the masses, but also the fact that the old supernatural sanctions of morality have broken down, and it is therefore incumbent to seek a new basis for morality. As one would expect, the attitude of the ethical societies as a body toward the churches is not defined, but varies with the opinions of the individual leaders and members. With some it is an attitude of frank hostility, while others, like J. R. Seeley, feel that there should be 'a friendly and hearty alliance' (p. 29). Which view is taken doubtless depends chiefly upon whether the theoretical or the practical aspect of their work is emphasized. With the ethical movement as an organized endeavor to promote the most important of all practical aims, and with its relation as such to the Church we are not now concerned. As preacher and exemplar of righteousness there should surely be room for both church and ethical society. *Moral predigen* is as important as, according to Schopenhauer, it is easy; but *Moral begründen ist schwer*. Still, the difficulty is one which the ethical societies should not shirk. If their *raison d'être* is the avowed failure of the churches, not only in the sphere of practice but even more in that of theory, if the old theological basis of morality has been condemned and may be expected soon to crumble into dust, must not a new foundation be laid for the ethical sanctuary? This is Dr. Carus's contention in the book already mentioned.

'The Ethical Problem' now before us in the form of a second edition is a reprint of Dr. Carus's three lectures on 'Ethics as a Science,' together with criticisms thereon, and the author's answers to these criticisms. To secure to the modern world the boon of moral unity despite intellectual diversity is a noble ambition, and to this end, to build upon the content of the 'common conscience' ('Ethics and Religion,' p. 43) in preaching righteousness of life, is to stand upon a sound enough practical platform, since it is quite true that men are better agreed as to the fact of moral obligation and as to what is right than they are to *why* they should do the right. But the fact that there is such wide diversity of opinion in regard to this latter question suggests that it is not as meaningless as Mr. Salter thinks it, nor as absurd as Dugald Stewart long ago asserted.

The discussion between Mr. Salter and Dr. Carus, which centers about this point, forms the best part of a book which contains some very inferior essays. Mr. Salter contends for the authority of conscience, the categorical character of obligation; but he has no 'basis' for this except the intuition itself of duty. By 'basis of ethics' Mr. Salter apparently means the 'motive' to do the right; and there can be, he very truly says, no other properly moral motive than reverence for the right and the desire to do it. Dr. Carus objects that this leaves the moral law 'in the air.' But the fact is that the statement of this question, Why should I do right?, which is surely a natural and rational question, seems to put us in an unpleasant dilemma. For we can either give no answer to the question, the consciousness of obligation is a part of our nature (whether it be 'original' or 'derived') carrying its own credentials, and beyond that we cannot go in search of any more ultimate moral motive; or, if we attempt to give any further reason for right conduct, this can only appear in the form of some appeal to self-interest, and this would be a non-moral motive which is at variance with the very idea of morality and would seem to undermine it altogether. Nevertheless the fact remains that there is no other alternative than this: either virtue for virtue's sake, doing the right out of reverence for the right; or virtue for the sake of something else, some reward, say, *e. g.*, happiness. Either view may receive a theological setting. But in the latter case the theological setting does not help us; it simply substitutes supernatural sanctions for natural. Nor do we mend matters by making universal happiness the end. Utilitarianism gives us a criterion of morality, and it points to a desirable, though not the highest end. But when we ask, Why, should I further this end of universal happiness? the answer is either, Because in so doing I best contribute to my own happiness, or, Because I ought, I feel it to be right to do so. But then, why should I do right? The former answer, which is that of early utilitarianism, is manifestly a falling back into egoistic Hedonism. The later and nobler form of utilitarianism says in substance: The highest rational end for every man is his own happiness; but what is good for me is good for others also; reason dictates, therefore, that what I would choose for myself I should promote for others likewise. To promote universal happiness is right because it is rational. One can seek no farther 'reason' for right conduct than its reasonableness. The motive of right conduct is its self-evidencing rationality. To ask why I should do what is rational is absurd. If then we ask, Why should I do right, meaning why promote the greatest happiness on the whole at

personal sacrifice, no final *rationale* can be given. We have here a 'dualism of the practical reason.' It is rational both to seek and to sacrifice my own happiness. Why then should I sacrifice it? Simply because I feel this to be right. I must do the right out of reverence for the right. We are thus thrown back on the moral motive as the ultimate *πρὸς ἑαυτὸν*. Theological Hedonism, moreover, in either the individualistic or the universalistic form, seems to leave us worse off than we were before; since, though it provides powerful motives in the form of supernatural sanctions, it furnishes no criterion of morality. For if it be said: Be virtuous, do your duty here, that you may be happy hereafter, we have then to ask, What is my duty? And unless it be held that we know intuitively what duty demands, we must define duty or moral conduct with reference to some end which it is incumbent upon us to follow now as the condition of future happiness. But granting that we have established the mundane end which furnishes the criterion of morality, the content of duty, fulfillment of which brings happiness, we are just where non-theological hedonism left us. If I do the right now that I may be happy hereafter, this is to act from a prudential motive. If I do the right in order to increase the present or posthumous felicity of others, this is because I feel it to be right to promote their happiness. Duty for duty's sake is the ultimate moral motive. The only alternative to this is that the motive to right conduct consists in the sanctions which attach to it. Dr. Carus denies this dilemma, but he does not refute it, and his own answer is an appeal to the sanction of natural law. Sanctions, indeed, natural or supernatural, universally attach to moral conduct (if nature is a moral order this must be so), but they do not necessarily constitute its motive, and the higher the type of morality the less stress it lays upon sanctions of any sort. But if it is a low view to base morality upon the supernatural sanction of a good and just Moral Being, surely it must be a still more unworthy view to base it upon the natural sanctions of a universe which, as Dr. Carus holds, is neither good nor just, but entirely non-moral. Prudence may dictate obedience to natural law, but such action is only expedient, not moral. To obey natural laws because we thus escape painful consequences, is Hedonism, to which Dr. Carus objects. The theistic morality to which he likewise objects may also, it is true, enforce obedience to the moral law by the consequences attending our attitude toward it. But the law of obedience for theological moralists is not always, nor even generally, founded in the *will* of God, which decrees rewards and punishments, but in the *Divine Nature*. Many

who may be called theological moralists make no appeal to sanctions, and certainly do not hold that God's will is the source of right. Professor Thilly, therefore, speaks inaccurately when he applies the name *theological school* exclusively to those who hold that certain things are right or wrong simply 'because God has arbitrarily decreed them to be so' (p. 117).¹ Von Gizycki knew better, and though he heartily repudiated theological ethics, we commend his remarks on this subject ('Ethics and Religion,' pp. 162-164) to Dr. Carus, who regards the familiar distinction urged by Mr. Salter between 'basing the right on the will of God' and regarding 'God's will as identical with what is right' as irrelevant ('The Ethical Problem,' pp. 143, 144).

But by 'basis of ethics' Dr. Carus apparently means something more than the motive or the sanction of right conduct; though just what he does mean is not quite clear. We take it, however, that he means that the moral law must have something more than a merely subjective existence; it must be the subjective representation of an objective reality. We are to look for this objective reality in nature, and Dr. Carus scorns the idea that the source or basis of the moral law may be found in any supernatural or transcendental region. "An ethical man is he whose aspiration is to live in perfect harmony with the moral law" (p. 37); but "the moral law is simply a formulation of the lessons taught us by experience" (p. 98); "in case you want fire, produce it by friction"; "if you wish to live, obey reason." "All we can say about the ethical ought is to state the facts as they are: the man who does not care about being a useful member of society, or who does not care about his physical, mental and moral health, who does not care for going to the wall, and whose actions are expressions of this indifference, he will do harm to his fellow beings, and he will be doomed to perdition. * * * These are the facts, and the moral ought is a statement of such and kindred facts for pastoral purposes, or as a help for self-education." There is no obligation beyond these facts (p. 148). "Morality is to be based upon the authority of natural laws" (p. 113). "The ought is a comprehension of the must"; it is conformity to the *is to be* (p. 154). "Morality is nothing but the intentional conformity to nature and to the order of nature." But since "nature is non-moral" (p. 312), it is difficult to see how we are here to discover the wished-for basis. Dr. Carus indeed is difficult to make out. Now he speaks of nature as non-moral (p. 312), and again of

¹One other point of detail may be noted. Mr. Thilly's classification of ethical theories and writers is in the main good, but it is surely a mistake to define 'energism' in such a way as to make it necessary to place Hobbes among antihedonists (cf. pp. 127, 190).

'the moral law in the world' and 'the moral order of the world' (pp. 131, 132). Nor can he mean to distinguish between 'nature' and 'the moral order of the world' and to make the latter transcend the former; for he criticises Mr. Salter on the ground that there is a 'dualism' lurking in his ethics, "as if the moral order were something radically different from the order of this world" (p. 126).

But if nature is so moral that it furnishes the standard of morality, why are we told that the only ideal worthy of man's attention is "that which aims at creating a better state of things," and that "morality is based upon, it is creating a better state of things by conforming to the order of this very same world in which we live"? (pp. 176, 306). How can we 'create a better state of things' by conforming to the present state of things?

We are forced to the conclusion that Dr. Carus does not hold to a moral order of the world which furnishes the ethical standard. In logical accord with his monistic philosophy, he uses the words God and nature indifferently. Man can be said to be moral only if he conforms to the will of God; but God is non-moral. He is only 'an inflexible law, immutable, irrefragable, eternal' (pp. 192, 312). In what sense can we say that morality is based upon the existence of such an impersonal non-moral law?

We repeat that Dr. Carus is not easy to follow. Morality is conformity to nature, yet "that which we should do must be regarded as the highest we can think of" (p. 145). Does this mean that we *ought* to realize our moral ideal? If so, then we have that absolute obligation which Dr. Carus repudiates, and an end to realize which assuredly external or physical nature does not reveal; while if this end be sought not in the cosmic process without man, but in human nature, then we have a subjective basis of morality and not that objective basis which Dr. Carus seeks. Or does the sentence last quoted mean that 'the highest we can think of' is conformity to nature's must; do this or take the consequences? In this case, we not only have no moral obligation; but furthermore we may well ask whether the imitation of a non-moral nature, or conformity to its laws, is 'the highest we can think of.' An ethical ought founded upon facts or laws which confessedly have no moral quality is assuredly meaningless and without basis.

Again: "An ethical teacher ought to appeal to the highest motives man is capable of" (p. 61). Is the highest motive, then, that man should seek to escape 'the doom of perdition' which waits upon the breaking of nature's laws? Apparently not; for Dr. Carus at times

risers above his prudential morality, as when he says: "An ethical action is performed from a broader motive than self-interest, from the desire to be somehow of service to the development of humanity." But in what does this differ from Mr. Salter's 'moral motive' for which no farther reason can be given? As Dr. Carus here unconsciously falls back upon Mr. Salter's moral motive, so also by a virtuous inconsistency he seems to transcend the ethics based upon the facts of nature. We may then agree with Mr. Salter in saying that the moral motive is the only proper motive for morality, and at the same time go with Dr. Carus in search of a basis of ethics, an objective grounding of the moral ideal. It is here that theology, or metaphysics, legitimately comes in. Dr. Carus refuses to identify the useful and the good, he desires 'the health and nobility of our soul-life,' his ethics looks toward the perfection of character. But where do we get our idea, our criterion of this ethical end? Surely not from nature as a whole, but from nature in what all are agreed in calling its highest aspect, from man, from within ourselves. Aside from the fact that evolutionary moralists are by no means agreed as to the end to which nature points, it may be confidently asserted that the ideal for man's life cannot be derived from anything lower in the scale of being than himself. The fundamental postulate of evolution is that what is last in order of time is first in importance, is that for which what went before existed. Evolution is an unfolding of the less into the more perfect form. If then man cannot derive his ideal from nature nor seek his ethical standard in the cosmic process, but must find it in himself, he cannot find a basis of ethics in the laws of external nature. The ideal, Dr. Carus says, 'is rooted and must be rooted in the real,' and by 'the real' he means the 'nature' of science. But the ideal cannot be rooted in infra-human nature, since man as a part of nature is the highest part. The ideal must be rooted in something which corresponds with its own character or quality. If there is no 'real' to which the ideal corresponds, then the latter is a subjective phantasm without objective basis, a 'mirage' as Dr. Carus calls it. But if it is not a 'mirage,' then the ideal is the shadow of the real. The latter is greater, higher, more perfect than the ideal. Our ideals change and grow in fullness of form and content. With them grow our conceptions of the real. As we endeavor to realize our progressive ideals, we approach more and more to the similitude of the real. The form of the moral law, therefore, is obedience to the ideal within us; its justification and basis are in the fact that in obeying it we are not only realizing the end of our own nature, but are at the same time realizing

a *whole* by identifying our life with that in which we live and move and have our being. This whole, however, must be not less but greater and more perfect than the self we seek to realize. It must transcend external nature, it must transcend human nature; they are both manifestations of its inner reality, but together do not exhaust its content. The individual finds his fullness in the universal, the Many find their life in the One of whose fullness they have all received. To separate the Many from the One, the Infinite, would be to limit, and thus to deny the infinity of the One. While, on the other hand, completely to identify them, to make the content of the One consist of the sum of the Many, and completely to submerge finite beings in the Infinite, would be to deny that element of spontaneous activity which constitutes moral freedom and is of the essence of morality. The relation of the One to the Many carries us to the heights (or the depths) of metaphysical thought; but we hold that we may recognize, and for an idealistic obligatory ethic we must recognize, a pluralism of personality and at the same time a unity of spiritual nature between the One and the Many.

Dr. Carus would doubtless stigmatize so much of transcendentalism as this as supernaturalism or dualism. But there is, apparently at least, a moral dualism between nature and man which is not of our making. As regards ethics, there seems indeed to be but three possible positions—either (1) Nature, meaning by nature what Huxley calls the cosmic process, may be taken to furnish the standard or ideal of morality—which we cannot admit; or (2) There exists between nature, in this restricted sense, and man, an ethical dualism, so that man does not find the moral ideal in the *actual* course of nature—in which case the ideal is a purely subjective affair; or (3) Man is superior to nature, its course is not his moral law, the latter is self-enunciated and therefore subjective; but if his higher nature which rises superior to cosmical nature allies him to the real spiritual nature of the universe, of which both cosmical nature and his own human nature are less and more perfect expressions, then we seem to have transcended the subjective ethical standpoint and found the objective basis of ethics of which Dr. Carus is in search.

We have avoided the use of theological language; but the necessity which the 'religion of science' seems to be under to employ the formulas of religious thought, may not improperly be regarded as a notable tribute to the rational hold which religion has upon the human mind, and should make us hesitate the less to employ language which is after all best suited to convey our ideas clearly and concisely. In

seeking for an objective basis of ethics, then, let us say: Be a person, seek to realize the perfect fullness of your moral personality; do this from no unworthy motives, but from sheer love of goodness and right. You will find the objective basis of this, however, in the perfect moral nature of God, the All-Real. God did not create Goodness or Righteousness by an act of will, but he realizes them in His nature. They exist subjectively in us as ideals, and obligation consists in the duty of seeking to realize them. The moral law, therefore, is summed up in the injunction: Be ye therefore perfect, as God is perfect. The basis of ethics does not consist in the naturalistic or the supernaturalistic sanctions of the moral law, but in the objective existence of goodness and righteousness in the Divine Nature, conformity to which is the absolute obligation and the supreme end of human life. Morality thus issues in religion—but not the religion of science. The 'religious motive' of morality, however, does not consist in the fear, but in the love of God, *i. e.*, love of the good and the right. God is the personification of these; it is for this reason that we love and seek to imitate Him. But why personify these concepts? it may be asked. Because goodness, moral perfection, are attributes of personality, of character; they imply a thinker in whose consciousness they exist and whose moral character consists in their realization. Morality can not be predicated of the unconscious. "Neither moral relations nor the moral law can swing *in vacuo*. Their only habitat can be a mind which feels them." In calling God a person we do not mean to limit His nature to our conception of finite personality. He may, nay must, be above, but cannot be beneath our conception of personality. By calling Him 'personal,' however, we mean in this connection to attribute to Him those attributes of thought and feeling which are the necessary implicates of moral being. If moral relations and the moral law exist only *in us*, they are subjective merely; but if they exist in the Divine Nature, they have objective and eternal reality. If such a divine thinker exist, 'then actualized already in his thought must be that ethical philosophy which we seek as the pattern which our own must evermore approach' (William James, in 'The Will to Believe'). Here is our 'basis of ethics.'

Objection may be made that the existence of such a Supreme Moral Being can not be proven, and that it is a mistake to base morality upon such a peradventure; or it may be contended that morality needs no such foundation; but nevertheless such an hypothesis seems necessary to satisfy Dr. Carus's demand for an objective basis of ethics. Finally, it is often urged that the geocentric concep-

tion of the universe having become obsolete, we can no longer cling to the idea of man's supreme place in the cosmos. But to base ethics on the moral nature of man only, is this not as anthropocentric a view as that of any schoolman? And is not the true universal point of view to make man's ideal also the universally real?¹

Mr. Kedney's theory of ethics differs radically from that of Dr. Carus. He agrees with the latter in finding both utilitarianism and intuitionism defective. They agree farther in that they both hold ethics to be impossible unless based upon a 'world-conception.' But here their agreement ceases; for if "the one question whose true answer makes a moral philosophy possible is, What is the *idea* of the universe?" ('Problems in Ethics,' p. 1) their ethics will differ as their respective 'ideas of the universe,' and of course the former must be true or false according as their answers to this question are true or false. Mr. Kedney is not only sure of the truth of his own view, but apparently takes a very optimistic attitude toward the possibility of general agreement. "If human thinking," he says, "is to be guided and corrected, and its results harmonized, the first and indispensable thing to be done is to make men, or those men who guide the others, agree as to their philosophy of the universe." One may be pardoned for thinking it a bad outlook if such guidance and correction are to begin only then, when it would surely no longer be necessary. Mr. Kedney is presumably a theologian, and he takes as his ethical '*primum*' or starting-point, belief in a personal Author of the universe, whose existence is taken to have been established in a former work entitled 'Christian Doctrine Harmonized.' Thus the present work in reality constitutes only a portion of a larger system of thought, and moreover is only a partial execution of the author's original intention to make this treatise on moral philosophy 'his main literary work' (Preface, p. iv). The result is naturally a somewhat fragmentary product, and this may in a measure excuse the fragmentary character of the slight criticism we intend to offer.

¹If we hold that the possibility of knowledge is conditioned upon the existence of an eternal self-consciousness, we are led by another path—the epistemological—to the same goal. One who lays stress, as Dr. Carus does, upon the necessity of a philosophy of the universe as a basis for ethics, could not object to this cumulative method of proof. Mr. Salter holds that "in truth there is nothing on which to base morality" ('Ethical Religion,' p. 37). Dr. Carus's basis is inadequate. The view briefly sketched above seems to me to indicate the direction of the only lines along which the 'ethical problem' can be solved. Mr. Salter quotes with approval the saying of Channing that "to love God is to love morality in its most perfect form" (*Ibid.*, p. 22). May it not with equal truth be said that to love the moral ideal, as above interpreted, is to love God?

Mr. Kedney both omits and includes topics not ordinarily omitted or treated in ethical works. Why, *e. g.*, should he devote a chapter to the 'question of the existence of evil spirits'? This is a very proper question for the Christian theologian to deal with, since Scripture has something to say on the subject. But how does it concern the philosophical moralist? Since if evil spirits do not exist they may be left out of account; and if they do exist and exert an 'alien influence,' their *modus operandi* is so obscure that the less we reckon with it the better; while if they *control* the will of human beings this would seem to impair moral responsibility. We agree with Mr. Kedney that it is probably best for us that we are left (where his chapter leaves us) in ignorance as to their existence and influence.

Mr. Kedney adheres to the triplicate Kantian postulates of morality. God is treated of in the former work already mentioned. "The argument for human freedom" (Ch. X.) we do not profess to understand. The author's position is indeterministic. In support of the ethical implications of immortality much may be said and the arguments for it may be stated with some force in various ways. Thus it may be argued that the human consciousness demands the final identification of virtue and happiness, and since this is manifestly impossible in the present life, we necessarily look for it in a life beyond the grave. Or it may be urged that the moral life is the progressive endeavor to realize our moral ideal of perfection of character, and that since this realization is manifestly impossible in the present life, our efforts would be in vain, a following of a will-o'-the-wisp, an unsatisfactory and incomplete episode, a tragedy of ambition doomed to sudden disappointment, if there were not an eternal opportunity given to realize an infinite demand.

Nevertheless, it is surely too much to say that "there is no morality unless there be immortality," that "morality, otherwise, is mere expediency" (p. 104). "If this world's experiences and possibilities only are to be considered, morality is a mere question of expediency, which each individual must determine for himself. There is no higher authority than the individual will, no truer idea than the idiosyncratic subjective one; therefore no right but might—successful will" (p. 105). But surely the 'higher authority' of the Divine will, in which the author profoundly believes, would still exist, the true idea of moral perfection would be objectively realized in it, the moral law would still have significance, and obedience to it would bring its own reward; it would still be the law of life and the condition of human welfare; it would still make the universe a moral order and its laws moral laws, even if their sanctions were confined to this life.

We may hold to the Kantian idea that the moral life would be robbed of its supreme significance unless it were of infinite duration as well as worth, and yet not stake morality upon the doctrine of immortality. It is absurd to say that the universe without immortality 'is a soulless machine' (p. 119). Faith in God and a future life are coördinate aspects of the Christian conception of the world, and they are commonly associated in thought. Together they furnish the best, if not the only, rationale of an optimistic philosophy. But they do not necessarily stand or fall together. One may surely believe in God and in his wise providential ordering of the universe as a whole, including the race of man, and in the reign of moral law, while still expressing doubt about personal immortality. The eternal life being life in harmony with the nature of the Eternal, may begin here and now, and though it cannot reach its full fruition in our short finite existence, and for this we are led to look beyond, it would still not be true that 'without immortality might would be right and expediency morality.' Morality might be God's will for mortal as for immortal beings. It is at least thinkable that in three score years and ten man might so realize the blessedness of a life in harmony with the Eternal Righteous One as to make the moral life worth living. It may of course be objected that in order to justify the ways of God to man individually, in order to conceive of Him as a just and loving Father who cares for each one of us, we must postulate a sphere where the wrongs of this life may be righted and the crooked made straight. And this is true. Only thus can the demands of the religious consciousness be completely satisfied, and the providential order of the world be made to cover individual cases; but it does not follow that personal immortality is necessary to the existence of moral law or that without it the world is a soulless machine.

It is also true as a matter of fact that most of those who refuse to put faith in the doctrine of immortality do so on the basis of a materialistic philosophy. Nevertheless, the answer to the metaphysical question as to whether the universe is 'a soulless machine' surely sustains no logically necessary relation to the ethical demand for immortality. It is perfectly possible to believe in a God without believing in immortality—that is, to find the 'proofs' of God's existence stronger than those for immortality. Though here again, as a matter of fact, the moral consciousness which demands a future life also furnishes one of the strongest arguments for the existence of God. Mr. Kedney, however, is disposed to overwork a willing beast. He doubts "the alleged indifference with which it is said that some men of philosophic temper-

ament have met death"—a doubt which we do not share, but need not dwell upon, since the fact, whatever it be, would tend neither to prove nor to disprove anything of importance. Mr. Kedney continues: "The human soul clings to life as no animal does, which shows its instinct that life has meaning," *i. e.*, according to the context, that man must be immortal. The statement in regard to animals may be doubted. Even a fish may be said to 'cling' desperately to life when it struggles to regain its natural habitat; and cases of animal-suicide, if proven at all, are at least rare. We know too little about the feelings of animals to speak about them with any certainty. But if the facts be as Mr. Kedney asserts, may we not with equal justice argue precisely otherwise? We instinctively cling to what we fear to lose; but if we are to pass out of this life into a richer, fuller existence, why is it not our instinct that 'to depart is far better'? Mr. Kedney says the fact that man "cannot imagine his extinction as a self-consciousness may be taken as supplementary evidence that such extinction is impossible" (p. 116). If Mr. Kedney cannot 'imagine' this 'extinction,' it seems a curious limit to the imagination of one who lays so much stress upon the necessity of "taking the ideal out of the cold region of pure thought and bringing it within the warm one of imagination" (p. 27).

Again Mr. Kedney says: "The neglect to take into account the fact of continued conscious human existence after death as furnishing a set of relations affecting human conduct before death, is the fatal flaw of utilitarianism as a reasoned system." Mr. Kedney forgets that utilitarians like Mill and Sidgwick show that theological sanctions may be added by those who choose, in support of a morality which makes universal happiness the highest good; and in criticising Kant on this point he comes dangerously near the position of Paley.

Mr. Kedney's desire to avoid accepted philosophical phraseology (p. 23) is unobjectionable, though it may be asked wherein consists the advantage of avoiding terminology which would abbreviate expression without sacrificing lucidity. But if accepted terms are to be used at all, they should be used with proper discrimination. Thus Mr. Kedney lumps all utilitarians together and criticises them *en masse* (p. 43). He holds out as utilitarian doctrine the thesis that 'might determines right.' But what is right is duty, and just over the page our author teaches that for utilitarians the only *duty* is to promote the aggregate of happiness. There are, of course, utilitarians, like Sidgwick for example, who neither ignore the idea of duty, nor resolve it into might. On the other hand, Mr. Kedney himself appar-

ently falls into this identification of might with right. The origin of a nationality, he says, may not have been necessary or morally right; "but if the new state can maintain itself in its autonomy, it must be thought to be comprised in the providential plan, and therefore to have the divine sanction." That is, whatever is, is right, or might makes right. And if a state can *not* maintain itself, then presumably it has not the divine sanction. This reminds one of much of the pulpit and political sophistry at present current.

From what has been said, it may be surmised that Mr. Kedney's edifice is somewhat loosely joined together. With a single final glance we leave it. The author says: "Many animals are superstitious" (p. 198). "Superstition is simply the irrational." "Superstition implies a false philosophy" (p. 199). From this it would follow that many animals are irrational and have a false philosophy. The book is written in fine spirit, however, and in its definition of the good as "a community of loving souls," recognizes both the social and the ideal elements which are characteristic of the tendency of recent ethical thought.

GEORGE S. PATTON.

PRINCETON UNIVERSITY.

Essai sur l'Imagination Créatrice. TH. RIBOT. Paris, Felix Alcan. 1900. Pp. vii + 304. Fr. 5.

This monograph, the latest work from Professor Ribot's hands, is of considerable importance, as the first attempt in the direction of a classification of the results of the investigation of the inventive imagination which has been going on for some time, especially among the French psychologists. The author recognizes fully the difficulties of this field, so long neglected, its obdurate attitude toward experimentation, the multitude of problems that it gives rise to without affording the means to their solution, and especially the chance it offers for over-hasty generalizations and hypotheses. The work is therefore largely a description and classification of the processes of the creative imagination and the modifications which these general processes undergo according to the ideal content with which they are concerned. Professor Ribot modestly calls it an essay, not a complete monograph.

It would give an incomplete view of the book, however, to call it merely descriptive. Where psychological and physiological hypotheses force themselves upon the attention—though with habitual reserve decision is suspended—the conditions of their solution are fairly and critically presented. Besides this a number of empirical gener-

alizations have been developed, which if not permanent contributions to the subject, ought, at least, to be decidedly valuable hints for further investigation. The entire presentation is carried out with that system and detail of classification which is characteristic of the author's method, and which is especially valuable in the present chaotic conditions of this sphere of investigation.

The essay is divided into three parts, respectively, analytical, genetic and concrete descriptive, in their method of treatment. The analytical undertakes to determine the nature and relative importance of the intellectual, the emotional and the unconscious factors in imagination, to distinguish the passive from the creative imagination, and to investigate the principles of unity and the organic conditions involved. The genetic treatment studies the imagination in animals, in the child, and in the myth formations of the race, and formulates the general laws of the growth of the imagination in the race and the individual. The third, or concrete portion, in some respects the most original and valuable contribution to the subject, is a study of the different types of imagination as differentiated by social conditions, namely, the æsthetic, the mystical, the scientific, practical and mechanical, the commercial and utopian.

Of course, in its great outlines this essay is but a chapter in Professor Ribot's psychology. The basis of the creative imagination he finds in the motor processes of the psycho-physical organism. All invention arises out of a need to objectify or externalize images in consciousness, the pathological forms of this dynamogenesis being found in hallucinations and the bodily effects produced in extreme cases of hypnotic suggestion, especially in auto-suggestion, *i. e.*, the phenomena of the *stigmata*.

All invention, in whatever sphere, is a function of two elementary factors, namely, certain fundamental needs of the organism, desires and tendencies, and a rapid and spontaneous association of ideas. All qualitative differences in imagination and the degree of imaginative possession, if the expression may be used, are functions of the relations of these two factors. The difference between passive and creative imagination is then one of degree, the process of invention 'being in the intellectual order equivalent to volition in the order of impulsive movements.' In the mere dreamer and vaguely imaginative man we have the *aboulia* of the creative imagination. This volitional theory, already developed by Paulhan in his article, 'L'Invention,' with much documentary evidence, Ribot has demonstrated for every sphere of in-

¹ *Revue Philosophique*, March, 1898. Reviewed by the present writer in this REVIEW, May, 1899.

vention, showing clearly that even the scientific, commercial and mechanical creations have their origin in the volitional and affective sides of consciousness.

In connection with this motor theory is developed an interesting and very probable doctrine of the creative imagination in animals, namely, that invention with them consists in new combinations of movements. An analysis of Groos' catalogue of animal plays shows them to consist largely of an elaboration of old movements into new complexes. Animals have memories and spontaneous imagination, but, although the results of observation are very uncertain, creative imagination in the sphere of images is generally denied them. Color is lent to this notion by our general knowledge of the animal mind and by the anatomical studies of Flechsig and Wernicke, which point out the undeveloped state of the coördinations in the sensorial regions of the lower mammals. Moreover, mental disease in young children expresses itself largely in a lack of motor coördination. In this exclusively muscular imagination of animals and young children Ribot sees one of the chief supports of his general theory.

The motor and affective elements in invention, besides being initiative, further tend to dominate the associations which make up the process. In the analytical study great importance is given to the rôle of emotional association, and the degree in which associations are emotionally determined becomes the principle of division for the classification of the creative imagination into its two great forms, the 'plastique' and the 'diffuente,' a distinction which becomes fundamental in the æsthetic sphere. The different types of concrete imagination are determined then, not alone by their content, but by the degree in which associations are emotionally determined and, consequently, by the coefficient of belief attached to them.

There are two favorite positions of Ribot, still experimentally undetermined and much disputed, which are fundamental in the entire work, namely, the doctrines of affective memory and of mediate association. Affective memory and its corollary, emotional abstracts, become the explaining terms for a large class of imaginative processes, which are termed 'diffuente.' And indeed, if we look upon this conception as a hypothesis, the value of which consists in its ability to explain imaginative processes, otherwise scarcely to be understood, we may well give it conditional credence, for there is a large group of æsthetic phenomena which seem to admit of no other explanation. Ribot can still admit the experimental uncertainty of the problem and set this explanatory power of the hypothesis over against the largely *a priori* considerations advanced by Titchener and others in disproof

of affective memory. In regard to mediate association, the case is much the same. In so far as the associative side of the creative imagination is concerned, many facts of the concrete imaginative life seem to require it. To mediate associations and Ziehen's doctrine of association by constellation, the spontaneous associations are reduced, whether the unconscious element in the invention be understood physiologically or psychologically.

In strict dependence upon the foregoing theory of affective memory and emotional abstracts, the principle of unity in invention is to be found in the 'emotion fixe.' It is the center of attraction about which the associations group themselves and by which they are determined. Not that an absolute distinction is to be made between the 'idée fixe' and the 'emotion fixe,' but in imagination ideal control is predominately emotional. We find, then, in the realm of the imagination stages of the attention parallel to those in the sphere of fixed ideas, stages passing from the (*a*) *unstable* and unorganized imagination, little differing from the passive, where the combinations are merely possible, to the (*b*) *fixed*, where there is still an oscillation between the ideal and the real, and, finally, to the (*c*) *objectified* imagination, where credence is total and where there is no longer return to the real. At this stage the pathological is reached. True to his monistic principles throughout, here, where physiology refuses to be explanatory, the author admits an inexplicable unconscious factor and contents himself with mere description. While excluding all the teleology that often creeps into this field, whether from idealistic or biological sources, he cannot, however, avoid coquetting with the idea. The constant use of such terms as 'immanent logic,' 'logic of the emotions' are blemishes in an otherwise thoroughly consistent treatment. Perhaps they are ghosts that will not down!

Although no sharp line of division can be drawn between the 'idée fixe' and the 'emotion fixe,' there are however two relatively distinct modes of imagination, according as the emotional or intellectual associations prevail. The distinction between the 'plastique' and 'diffuente' imagination is found throughout all types of inventions and is especially important in art creations. By no means identical with the idealistic-realistic classification, being rather a cross division, it is one which has in it the possibility of displacing this worn-out distinction with one more scientific and developed from the more complex experience of the present. Ribot, who is, it would seem, in the æsthetic portion of his treatise considerably influenced by the studies of Guyau, likewise finds the differentia of artistic method in the subjective atti-

tude of the inventor toward his ideal content. The *plastic* imagination is essentially externalizing. Whether the subject matter be sentiments or images, an imagination of this type seeks the clearest and most distinct forms, for its externalization is visual or tactual. In the sphere of literary form its ideal is clear and vivid imagery. If its materials are those of the painter or sculptor, clearness of outline and detail is fundamental. The *diffluent* imagination is, on the other hand, to use Ribot's constant expression, governed by the 'logique emotionnelle,' its reality is internal, its associations less rigid and stable, its contours undecided. Here the emotional abstracts or moods have full sway as unifying principles. That such a distinction is fruitful the reader of Ribot is convinced. On the whole, too, the author's classification of the various tendencies in art, which puts Victor Hugo and the Parnassians among the former, the impressionists, the symbolists and the pre-Raphaelites among the latter, will be found to be just. He has shown, too, that, whether idealistic or realistic, the subject matter is entirely independent of the mode of imaginative treatment. Victor Hugo and Poe are of the plastic, while some of the realists are of the *diffluent* type. The conception ought, however, to be carried out more fully by determining the laws according to which the details of material treatment produce these effects in appreciation and by showing the difference of the two types in the various arts. This was brought to my attention by a comparison of the drawings of Victor Hugo, recently reproduced in *Harper's Magazine*, with Ribot's analysis of his written style. While Hugo's literary imagination seems to be decidedly plastic, yet some of his sketches have, if I understand the distinction, decidedly the opposite effect.

Moreover, it would seem that, if this distinction is to be one applicable to all the arts, Ribot has conceived it somewhat too narrowly in defining the plastic imagination as determined by a dominance of visual and tactual ideas. This idea, joined to the fact, for which the author finds abundant documentary evidence, that, at least among those who appreciate music most, there are few visual associations, leads him to classify music as wholly of the emotional or *diffuente* type. While this is true of much of the so-called intellectual music, much of Bach, Glück and some of even Beethoven and Mozart, are decidedly plastic in effect; but in the case of music the muscular sensations in the experience of effort and rhythm are so definitely and objectively conceived as to be almost spatial in effect. The phrase "architecture is frozen music" is, psychologically at least, not wholly meaningless.

It is to be regretted that this description of the two types is not

supplemented by an attempt at a temperamental explanation of the distinction—a not impossible task and, certainly, one for which Ribot is preëminently adapted. Wundt's theory of the temperaments might have proved as fruitful here as in religious psychology. In chapter IV. there is a suggestion that the two modes of procedure in creative imagination, intuitive and combinative, are respectively due to motor and sensory types, but it is left uncertain whether these two modes of procedure are related to the distinction between 'plastique and diffluente.'

Notwithstanding these undeveloped portions of the theory, a study of the detail of the discussion is sufficient to impress upon the reader the great value of the distinction for æsthetics, an impression that has been further deepened in the present writer's mind by the fact that a comparison of this distinction with Ruskin's division of imagination into penetrative and contemplative has developed many points of likeness between the two.

Ribot has also found this distinction fruitful in the classification of myths. The Hindus with their unstable Augenblicksgötter and their emotionally determined symbolism, and the Celts with their dreamy changing myths, are 'diffluente' in type, while the clearly conceived historical and dramatic myths of the Greeks and Teutons are 'plastique.' All mysticism is of the former kind.

The limits of this review will not allow a discussion of the laws and stages of the development of the imagination in its ontogenetic and phylogenetic growth. Important as are the studies of the different concrete forms of imagination, so penetrative in their analysis, always developing the salient points of distinction, and enriched as they are by illuminating detail from ethnological and sociological sources, it must suffice merely to characterize them as valuable for psychology and sociology alike. In M. Ribot has been found the systematic psychologist needed to supplement the brilliant work of Guyau and Tarde, and likewise to set the problems for more specialized work in this neglected field of psychology.

W. M. URBAN.

URSINUS COLLEGE, PA.

From India to the Planet Mars, a Study of a Case of Somnambulism with Glossolalia. TH. FLOURNOY. Translated by DANIEL B. VERMILYE. New York, Harper & Brothers. 1900. Pp. xix + 449.

The translation of this work (the original of which has been noticed in these pages, July, 1900, p. 406) has been well done and

offers, except for its abbreviations for which the translator is not responsible, the English reader a good opportunity to study a most important case of secondary personality simulating spiritism. Apart from this defect, which amounts almost to a mutilation for the scientific man, the work is one of the best contributions that I know to the study of a very obscure set of phenomena until the patience is shown to unravel its tangled threads. Professor Flournoy deserves and will receive unstinted praise for the way in which he has done his work, inasmuch as it penetrates into every remote corner of his case for facts to reduce it to a normal explanation. But I shall leave the merits of the book to the reader who may care to examine it.

The chief criticism to be made on the book is its ready acceptance of such doctrines as telepathy, telekinesis and clairvoyance. The author's scepticism in these questions does not serve him so well as in the case of alleged spirits. He accepts these questionable theories without adequate evidence, as it appears to the present writer. At least that evidence is not apparent in Professor Flournoy's work. Had he been as exacting of their claims to recognition as he was in the case of spiritism, he would not have betrayed any apparent credulity. I see no reason as yet to admit telekinesis and clairvoyance, and telepathy is only a name for a coincidence that requires a cause and is not an explanation.

To my mind, however, there is one important result from the book which I have not seen remarked. This is its indirect influence on such cases as that of Stainton Moses, whose experiences have puzzled almost a generation of inquirers. We have in this man an instance of perfect probity, so far as unanimous human testimony can indicate this, and yet a lot of incredible phenomena reported which have tempted Mr. Lang and others to call it a 'moral miracle' rather than accept the facts at their face value. These people have preferred to believe Stainton Moses a fraud rather than seek an explanation consistent with his honesty. Now Professor Flournoy's case offers a perfectly natural explanation without impeaching the facts or normal honesty of any one. Mlle. Smith, Professor Flournoy's somnambulist, simply passed into a secondary state, did certain things, and emerged from this state into normal consciousness with complete amnesia of the secondary condition. I have long held this a possible explanation of the Moses case, but have not found until now any authentic case sufficiently like it to enforce the conjecture. It is thus interesting to find an intricate but natural explanation to such baffling phenomena as these often are, and we owe it largely to the patient disregard of

dignity on Professor Flournoy's part that we have so valuable a case for appeal.

JAMES H. HYSLOP.

COLUMBIA UNIVERSITY, NEW YORK.

Introduction à la Vie de l'Esprit. LÉON BRUNSCHVIG. Paris, Alcan. 1900. Pp. 175.

This is an introduction to philosophy conceived as reflection upon the mental and spiritual life. It shows the simplicity, directness and clarity of statement that come from full mastery of the subject matter, and it is written in a delightful style. It treats briefly the mental processes under the heads of representation, action and feeling, and devotes a chapter each to the scientific, the æsthetic, the moral and the religious life. Science, art, morals and religion are all treated from the standpoint of their function in developing and enlarging the individual and social life rather than as ends in themselves, and the result is to make evident what ought to be but unfortunately is not always manifest—that philosophy is the most concrete and vital of all departments of human thought. It is admirably adapted for either the general reader or the college student who needs to be introduced to philosophy. It will tempt him farther.

J. H. TUFTS.

UNIVERSITY OF CHICAGO.

Essai sur la Soif, ses Causes et son Mécanisme. ANDRÉ MAYER. Paris, Alcan. 1901. Pp. 170.

The aim of this monograph is to determine the organic conditions which give rise to the sensation of thirst rather than to investigate, on purely psychological grounds, the sensation itself. The method was suggested by the results of comparatively recent experiments upon osmosis in animal tissues. Briefly stated, the conclusion is that thirst is due to increased osmotic pressure of the blood.

After sketching earlier hypotheses in regard to the causes of thirst, the author describes at some length the rôle played by osmosis in the organism, and shows how changes in osmotic pressure may be measured. In his own experiments he used the cryoscopic method. He found that the blood of animals (rabbit, dog) which had been subjected to thirst-producing conditions had a lower freezing point than the normal and consequently a higher osmotic pressure. Conversely, when the abnormal pressure is relieved thirst disappears. If, on the

other hand, we except thirst of nervous origin, all those pathological conditions which produce thirst increase osmotic pressure. There is, thus, a constant relation: the heightened pressure is the cause of thirst.

The mechanism which, under normal conditions, controls osmotic pressure, is vascular. The injection of hypotonic solutions has little or no effect upon the circulation, while hypertonic solutions cause dilatation both local and general. Similar reactions take place in the tongue and intestines, but in the kidneys dilatation follows upon the injection of either the hypotonic or the hypertonic solutions. These variations in turn restore the normal pressure; the control is automatic. As the changes are instantaneous, they are due, presumably, not to the direct action of the blood upon the centers, but to excitation passing over afferent nerves. This view is confirmed by experiment; injection of the carotid with hypertonic solutions, after curarization, produces vaso-constriction, an effect just the opposite of that which is obtained when the centers are normal. The center in question, as is shown by elimination, must be the bulb. This means not that there is a special thirst-center; but that the osmotic pressure of the blood which causes thirst is controlled by the bulb. Whether there is also a cerebral center the author does not decide, but his experiments persuade him that if there be such a center it is probably one of association and not one of projection.

The mechanism here described is the same in man as in the lower animals, since the physiological accompaniments of thirst (observed by the author in three subjects and reported by other writers) present variations analogous to those which are produced by experiment. On the subjective side, thirst, when it is pathological, contains these elements: a general uneasiness and depression, followed by agitation and anxiety, along with the localized sensation, which is impulsive in character and which leads up eventually to paroxysm. Under normal conditions we perceive only the sensation and the impulse to drink. These psychical processes correspond to the organic changes which have been described and which originate in the excitation of the central nervous system by blood under abnormal pressure. Consciousness, however, reacts in its own way, magnifying and emphasizing the needs which the organic mechanism reports, until the sensation of thirst amounts to an auto-suggestion.

Dr. Mayer has considered a difficult problem from many points of view and has brought to convergence many lines of research. For the theory which he advances the question of changes in osmotic

pressure within the organism is pivotal. A more thorough discussion of the methods by which these changes are measured would have been both appropriate and useful.

The presentation of the subject is clear and orderly. To say that too much care was taken with the contents of the book would be unjust; and yet one might possibly explain in this way the carelessness which appears on nearly every page, in misprints of all sorts, in lack of references or inaccuracy when they are given, and in the blurring of curves which are supposed to help out the text. The page of 'errata' at the end of the volume gives samples only.

E. A. PACE.

CATHOLIC UNIVERSITY, WASHINGTON.

HUMOR.

Le rire, essai sur la signification du comique. H. BERGSON. Paris, Alcan. 1900.

The material of this book appeared originally as three articles in the *Revue de Paris*, but it well deserves reproduction in this more permanent form. For in attempting a theory of the comic based largely upon social relations, the author has certainly contributed to the better understanding of certain species of the comic, even if his theory be not accepted as wholly adequate.

The main positive thesis is that the comic results from the social life, and always shows a certain lack of adaptation to society on the part of the individual. Every one who goes his own way automatically without troubling himself to come into touch with others is comic. The prig, the pedant, the man behind the times, the odd or peculiar man is comic because out of touch with society; he is stiff and mechanical, instead of responsive and living. Laughter may be regarded therefore as one of the powerful factors in socialization, and this would afford a biological justification for its development, although I do not notice that the author calls attention to this point.

So far the comic of character in which the author is convincing. But how explain the comic of form, of movement, of situation and of words? These are held to rest in last analysis upon an element which appears in the analysis already noted, viz., the element of automatism or stiffness. All distraction or absent-mindedness is comic. A systematic distraction such as that of Don Quixote reaches the climax of effect. In applying the principle of automatism to comic situations the author analyzes a large number of stage situations, and shows much ingenuity

in detecting a mechanical element interjected where one would naturally look for life. The jack-in-the-box motif, the puppet motif, and situations where by inversions, repetitions and entanglements the actors seem to be manipulated at will, are all based on this one theory. The book concludes with a discussion as to the place of the comic among the arts.

Das Komische. JOHANNES ZIEGLER. Leipzig, Avenarius. 1900.
Pp. 39.

Taking as starting-point the various theories which have made contrast in some form the essential feature of the comic, Ziegler attempts to define more specifically the exact nature of that contrast which is comic. He holds that there is always a conflict or collision between some mechanical process or occurrence on the one hand and a human purpose or end on the other hand. This mechanical process has in itself no end, but, owing to its apparent thwarting or perversion of some human aim, we are prompted to view it as if it intended its opposition. There is, hence, a double contrast: (1) between the purposeless and the (seeming) crossing of some purpose; (2) between the crossing or perverting of a purpose and the assertion of a purpose. The first furnishes the factor of surprise and contrariety, the second the comic in the proper sense.

Like the preceding theory, this may be applied to many comic incidents, but it seems inapplicable in others.

J. H. TUFTS.

UNIVERSITY OF CHICAGO.

VISION.

Eine Anpassung. DR. REDDINGIUS. *Zeitschrift für Psychologie und Physiologie der Sinnesorgane*, Vol. XXII., pp. 96-100.

The adaptation here referred to is one already noted by Helmholtz that if objects be viewed through a triangular prism, and an attempt be made to touch them, the finger at first goes astray; but the movements rapidly become adjusted to the amount of the refraction, and the objects are thereafter exactly touched. On removing the prism a similar, though reverse, adaptation is necessary before the reactions of the hand again become entirely suited to normal vision. Dr. Reddingius, oculist at the Hague, here reports a number of interesting modifications and supplements of this experiment, to show that Helmholtz was mistaken in ascribing the adaptation to a change in the

judgment of visual locality. Helmholtz assumed that since, as he showed, the muscular localization was not altered, the visual localization was, by exclusion proved to be the seat of the adjustment. Reddingius, however, now produces quite as strong positive evidence that this other alternative—change in the visual judgment—is also out of the question, and that the true explanation must take a still different form.

The most telling of the author's experiments against the assumption of a change in visual localization is this: If the prism be so placed that objects seem too far to the right, and one of the hands be practiced for some minutes in pointing to them, until all error has disappeared, and this hand be then kept out of action and the other hand be similarly practiced with the prism turned around so that objects now seem too far to the left; and again in turn the feet be practiced so that they become adjusted, respectively, to an upward and downward refraction, and then the prism be removed; each member now retains his own peculiar adaptation, and the four different directions of error are found lying side by side. Since it is manifestly absurd to suppose that the direction of vision could be falsified in four directions at once, the visual-judgment hypothesis is thus excluded. Similarly the supposition that the muscular direction has been altered is excluded (the author believes) by the fact that the hand accustomed to the prism makes no error in touching the nose when the eyes are closed, and yet on opening the eyes shows the usual errors in movement.

The author would explain this whole group of results as due to an abnormal motor effect of the impulse which arises from the visual impressions—an abnormality which, he finds, can be detected as long as thirty-six hours after an adaptive exercise lasting but ten minutes, provided the adapted member remain unused in the meantime.

Reddingius's explanation seems much juster than Helmholtz's, so far as the facts of this particular experiment are concerned. The exercise with the prism brings about no change of conscious localization of objects. It is like learning to direct one's movements in a mirror, or to control an object under a microscope. In the presence of the unusual sight impressions we learn to make abnormal innervations in order to bring our hand to a given place in the visual field.

In this respect the character of the adaptation is quite different from that which comes about when the disturbing visual conditions are submitted to, not for minutes, but for hours or even days. In the latter case there is a change not merely of movements, but of the conscious localization of things. Perhaps the alteration of the motor im-

pulse, upon which the author lays stress, is an important factor in this more peculiarly psychic adaptation also. It is possibly one of the important conditions leading up to the readjustment of tactual and visual local signs, by which a new tactual locality comes to feel as if it actually were the true counterpart of a visual place to which it does not belong. But the change of the motor impulse is not this psychic adaptation itself; as is proved by the altogether different amount of time and practice which each requires for its production.

In contrasting his own results with Helmholtz's, the author makes a curious slip. He quotes Helmholtz's account that when one hand has become accustomed to react suitably with the prism before the eyes, and then *the eyes be closed*, any object which we have localized with that hand can now be unerringly found with the other—the unaccommodated—hand, showing that the process of accommodation had not given a false color to the muscular feelings in the adapted hand. Reddingius then goes on to say that when he himself used a prism whose refractive angle was 36° (as against 16° or 18° in those of Helmholtz) he got quite the opposite result: the unaccommodated hand also went astray. Yet this 'opposite result,' one finds, was obtained *while one eye was open and looking through the prism!* The fact is that, with either weaker or stronger prisms (the reviewer finds), one can get Helmholtz's result or its real opposite, according as the unpracticed hand, on closing the eyes, is guided by a visual or by a muscular memory of the locality sought. Guided by the memory of the impression obtained the moment before through the prism, the hand goes astray; guided, however, by the dying feeling in the accommodated hand when last it touched the object, the other hand finds the place exactly. This, however, is quite in keeping with Reddingius' conclusion that the abnormality in the movement only occurs in connection with optical presentations. Movements whose starting-point and goal are figured entirely in muscular terms are not affected by the 'adaptation.'

GEORGE M. STRATTON.

UNIVERSITY OF CALIFORNIA.

EDUCATIONAL PSYCHOLOGY.

Kritische Untersuchungen über Denken, Sprechen, und Sprachunterricht. A. MESSER. Schiller and Ziehen's *Abhandlungen*, III. Bd., 6 Heft. 1900.

Dr. Messer's monograph is a critical discussion of the value of classical studies. It takes its departure from the antagonistic results

arrived at by two men who have recently written upon the importance of linguistic study.¹

Of these, the former holds that no better means than language study can be found for the material enrichment as well as the formal discipline of the mind; the latter considers it unadapted to accomplish either end. Both appreciations—the low as well as the high—are connected with special theories of the psychological significance of verbal signs on the part of these authors.

According to Keller, words do not signify things themselves, but our ideas of things, of relations, of movements, and our concepts. They stand for a peculiarly subjective range of experiences, which cannot be apprehended by observations of the objects with which they are secondarily connected, but must be directly communicated through these symbols themselves. Were words but the signs of things the acquisition of a foreign tongue would have little bearing upon the mental development of the learner. Being nothing of the kind, but rather symbols of a most strongly individualized conceptional way of regarding these things, the significant word becomes a new material element in the learner's thought content. To acquire an unfamiliar speech is not merely to learn a novel set of signs for the same old world; it is to win a fresh spiritual possession and vastly to enrich the material of our mental life.

In reply to this Messer very briefly and conclusively points out that the foreign word, heard for the first time, is a bare sound or visual impression, and that it takes on intelligible content only when there has been connected with it one or more words of one's mother-tongue or the perception of the object which it—directly or indirectly—indicates. It takes on meaning only through its translation into terms of an intuition of our own culture-world, in which process no material enrichment is gained. Such a widening of our spiritual horizon can take place first when a study of the literature of a foreign people has been added to that of its speech, and, indeed, even this becomes effective only when richly supported by information concerning the actual conditions of their material and social life.

For Ohlert also the term fails to represent the thing, but for a different reason than that of Keller. The word, he says, is thoroughly and always one-sided. It indicates not the sum of characteristics which actually constitutes the object, but only that one of these which attracted the attention of the name. The word *Boß*, for example, seizes

¹ 'Denken und Sprechen und Sprachunterricht.' Julius Keller, Lörrach, 1899. 'Das Studium der Sprachen und die geistige Bildung.' Arnold Ohlert, Berlin, 1899.

upon only one of the many aspects which the ox presents, and characterizes it as the bellowing beast. Or again, letting slip all thought of the wolf's size, color, form, gait, and a thousand other things, we apperceive him only as the *Render*, not even creating a new verbal element, but only applying a special already existing root-wood.

But all this, it is objected by our author, applies only to the original naming of the beasts, and in no way holds of the speech of any cultured people. The specialized apperception which gave birth to the verbal form is but one of a vast range of possible aspects and relations which the thing may possess, all of which are implicit in the term. For the word does indicate the object and all its characteristics, however the ideational content which it arouses may vary in passing from the child to the adult, or from one special practical relation to another. And just because the term signifies for our consciousness not a single characteristic, but the object at large—or rather a whole class of objects—the utterance of a word, apart from the connections of rational speech, may arouse a whole series of images in consciousness, which renders it impossible to determine in advance what particular course the reproduction will follow in any given case.

Nor is Ohlert's second point better taken, namely, that we customarily employ verbal symbols without having in mind the characteristics which they indicate. The term 'unconscious' here is unhappily chosen; it can signify only 'beyond the focus' and not 'below the threshold' of consciousness. And even so, it can mean only that in hearing and reading intelligent language there is not aroused in us a specific awareness of the many concrete aspects and relations under which the thing may be conceived, but only a faint fringe of feeling concerning the existence of other meanings and applications which we could realize if we wished. Yet here we must remember that in all connected speech the particular content is really quite definitely determined, and a departure from it—the appearance of ambiguities or arbitrary associations—is the exception, not the rule. The truth lies between these two extremes. The learning of a foreign language does not enrich the mind with a new range of material knowledge, but it is not on that account the less valuable as a part of school instruction. Ohlert's assertion that capacity for right judgment and training in logical thought is to be gained only by the process of thoroughly acquainting ourselves with the concepts and objects about which such judgments are made simply cannot be maintained.

The acquisition of a rich material knowledge is undoubtedly an important part of education. But no less significant is that whole

group of studies which direct the pupil's attention to the activity of thought itself, and call upon him to analyze the nature of the concepts which he constantly employs, to discriminate and compare their applications, and to practice the *process* of thought so that, in the words of Paulsen, he may be able clearly to separate and apprehend the problems of thought relations. And for this logical training the study of foreign languages, in virtue of its unremitting demand for comparison with the verbal concepts of its mother-tongue, offers a rich and appropriate material.

R. MACDUGALL.

HARVARD UNIVERSITY.

PSYCHOPHYSICAL.

Quelques contributions à la psychologie du sommeil chez les sains d'esprit et chez les aliénés. By ALEXANDRE PILCZ. Annales Médico-Psychologiques, Vol. LVII., No. I., Jan.-Feb., 1899. Pp. 66-75.

Dr. Pilcz, assistant in the first psychiatric clinic of Vienna, gives in this interesting and clearly written paper the results of experiment on himself and of inquiry among competent patients. The monotonous life of the hospital made it possible for him to retire to sleep on the moment, as he says, and he arose regularly at seven in the morning. Before going to bed, during a period of several weeks, he took doses of bromide, of paraldehyde, tea, alcohol, etc., or else subjected himself to severe physical or mental labor. On awakening he wrote out his dream-experiences and likewise the content of his consciousness whenever awakening during the night, which was a frequent occurrence.

He states that he was entirely unable to verify the results reported by Nelson (Am. Jour. Psy., Vol. I.) as to an alleged periodicity or regularity of the intensity of his dreams, although he devised a scale by which the subjective intensity could be in each case accurately recorded.

During the nights when he was under the influence to a greater or less extent of excitants, such as tea, coffee, alcohol, exciting events or of intellectual or emotional experiences such as the opera, his dreams were short and confused, and they related to *recent* and relatively unimportant events. When, on the other hand, he had taken paralde-

hyde or bromide, or had subjected himself to serious but not exaggerated physical or mental exertion, when, in brief, he was fatigued or under the influence of a somnifacient, his dreams like his sleep were heavy and deep, and related to events in his experience of relatively great importance to him which had occurred at *a much earlier date*, perhaps years before, and with which his waking mind was more often occupied. The first hours of sleep at night gave him dreams of events of years before, perhaps, while the morning hours were productive of dreams relating to recent events. In cases where he was over-excited on retiring the fatigue of hours of restlessness caused a reversal of this relation.

He could discover no correlation between the depth of sleep (with its consequent characteristic dream material) and the intensity of its dreams.

He confirms the observation of several other experimenters: that generally every impression, however important or however often repeated, remains in mind until it has had a chance to be reviewed in a dream.

From extensive inquiry among competent insane patients he found general confirmation of these results, paranoiacs in particular being useful in this respect. He noticed, as have others, that the delusions of the waking hours seldom or never came to harass the sleep of the monomaniac.

He suggests by way of cytologic explanation of these facts that the association cells and fibers of the cortex which are the most fatigued recover in sleep their activities last, the elements active least during the day being at night well supplied with energy. The phenomena observed in simple acquired dementia, as in senile dementia, strongly corroborate this view of cortical cellular fatigue as the occasion of sleep, the earlier experiences being best retained when the cells representing in some way the recent events of life are worn out.

Sur la Methode pour etudier les sentiments simples. By Dr. F. KIESOW. Archives Italiennes de Biologie, Tome XXXII., Fasc. I., pp. 159-164. 25 Novembre, 1899.

The author's researches have been mostly on taste, but he suggests that in any field the graphic method can be advantageously used to indicate the relation which the variation in the sensation as such bears to the variation in the accompanying feelings with changes of stimulation. By feeling Dr. Kiesow, as most writers now, indicates the

relative tone of pleasure and of pain, it extending in two opposed nodes from an indifference zero.

In the author's experience the majority of subjects can discriminate these two factors of an empirical complex, although both are abstractions purely. The sensation-curves are constructed by using the stimulus values as abscissas, and sensational intensities as ordinates. The feeling-curves use likewise the stimuli as abscissas, the curve thence extending on either side with the varying tone.

A large set of such curves made from averages of many persons and sensations would have considerable descriptive interest and value, being suggestive at least.

Unilateral Facial Paralysis for Emotional but Not for Voluntary Movements. R. T. WILLIAMSON, M.D. London, British Medical Journal. March 10, 1900. Pp. 576.

Nothnagel (*Zeitschr. f. klin. Med.*, Bd. XVI., Hft. 5 and 6) has already shown that lesions of the optic thalamus give rise to paralysis of emotional movements of a part, without interfering with the voluntary control of that part. This, of course, is strongly in evidence of the James-Lange theory of the emotions, indicating as it does that a large and important division of the brain is devoted, in part at least, to the innervation of emotional bodily reactions to certain stimuli. The case of Dr. Williamson's, here reported, is a striking illustration of this neurological relation.

The patient in this case was a woman forty-one years old. Consequent to great mental excitement her left leg became totally paralyzed and her left arm partly so; the tongue, however, could be protruded straight. There was no loss of consciousness. There was hemianæsthesia to tactile and to pain stimuli on the entire left side, as well as loss of sensibility to heat and cold. There was no hemianopsia. All the voluntary movements of her face, such as showing the teeth, etc., were very nearly alike on both sides, the left exhibiting a very slight deficiency as compared with the right. But when, by the proper stimuli, she was induced to smile, the left side was a complete blank, while the right side showed the ordinary typical expression of joy.

Dr. Williamson judges the lesion in this case to involve directly or indirectly the posterior part of the posterior portion of the internal capsule, and in all probability the optic thalamus. This presumption previous typical cases have made probable.

G. V. N. DEARBORN.

TUFTS COLLEGE.

NEW BOOKS.

- Die Quantität in psychischen Vorgängen.* TH. LIPPS. Sitzgsber. d. Bayer. Akad. d. Wiss. (Phil.-Philol. u. histor. Cl.). 1899. 3 Heft. (Repr.).
- Kant and Spencer.* P. CARUS. Chicago, Open Court Publ. Co. 1899. Pp. 105.
- La justice sociale.* F. DUGAST. Paris, Girard & Brière. 1900. Pp. 72.
- Le problème des sexes.* J. LOURBET. Paris, Giard & Brière. 1900. Pp. 302.
- What Is Thought?* J. H. STIRLING. Edinburgh, Clark. 1900. Pp. viii + 423.
- Le problème de la mémoire.* P. SOLLIER. Paris, Alcan. 1900. Pp. 220.
- Form and Formal Thought.* P. CARUS. Chicago, Open Court Publ. Co. 1889. Pp. 35. (Excerpt from 'Fundamental Problems.')
- Notes on the individual Psychophysiology of the Crayfish.* G. V. N. DEARBORN. Repr. fr. Amer. J. of Physiol. 1900. IX. April.
- Introduction to Ethics.* F. THILLY. New York, Scribner. 1900. Pp. xi + 346.
- Das Blut in Glauben und Aberglauben der Menschheit.* H. L. STRACK. 15te-17te Auf. München, Beck. 1900. Pp. xii + 208.
- The Dawn of Reason, or Mental Traits in the Lower Animals.* JAMES WEIR. New York and London, Macmillans. 1899. Pp. xiii + 234. \$1.25.
- L'Avenir de la Philosophie.* HENRI BERR. Paris, Hachette. 1899. Pp. x + 512.
- Interpretations of Poetry and Religion.* G. SANTAYANA. New York, Scribners. 1900. Pp. x + 290.
- L'Origine de la Pensée et de la Parole.* M. MONCALM. Paris, Alcan. 1900. Pp. 316. Fr. 5.
- Le Rire.* H. BERGSON. Paris, Alcan. 1900. Pp. vii + 204. Fr. 2.50.

- The Gospel According to Darwin.* W. HUTCHINSON. Chicago, Open Court Co. 1900. Pp. xii + 241.
- A Brief Introduction to Modern Philosophy.* A. K. ROGERS. New York and London, Macmillans. 1899. Pp. 360.
- Die Gemüthsbewegungen und ihrer Beherrschung.* C. M. GIESLER, Leipzig, Barth. 1900. Pp. 68. M. 1.20.
- Beiträge zur Philosophie des Gefühls.* F. RITTER v. FELDDEG. Leipzig, Barth. 1900. Pp. 122. M. 2.50.
- Phänomenologie des Wollens.* A. PFÄNDER. Leipzig, Barth. 1900. Pp. 132. M. 4.50.
- Ueber Psychologie der individuellen Differenzen.* L. W. STERN. Leipzig, Barth. 1900. Schr. d. Gess. f. psych. Forschung. Heft. XII. (III. Sammlung). Pp. 146. M. 4.50.
- Das Grundgesetz alles neuro-psychischen Lebens.* J. PIKLER. Leipzig, Barth. 1900. Pp. xvi + 254. M. 8.
- La tristesse et la joie.* G. DUMAS. Paris, Alcan. 1900. Pp. 426. Fr. 7.50.
- Methods of Knowledge.* W. SMITH. New York and London, Macmillans. 1899. Pp. xxii + 340.
- Sammlung von Abhandlungen aus dem Gebiete der pädagogischen Psychologie und Physiologie.* H. SCHILLER und Th. ZIEHEN. Berlin, Reuther & Reichard. The following:
- O. ALTENBURG.—*Die Kunst des psychologischen Beobachtens.* II. 3. 1898. Pp. 76.
- H. SCHILLER.—*Studien und Versuche über die Erlernung der Orthographie.* II. 4. 1898. Pp. 63.
- A. CRAMER.—*Ueber die ausserhalb der Schule liegenden Ursachen der Nervosität.* II. 5. 1899. Pp. 28.
- A. HÜTHER.—*Die psychologische Grundlage des Unterrichts.* II. 6. 1899. Pp. 83.
- A. OHLERT.—*Das Studium der Sprachen und die geistige Bildung.* II. 7. 1899. Pp. 50.
- A. MESSER.—*Die Wirksamkeit der Apperception in den persönlichen Beziehungen des Schullebens.* II. 8. 1899. Pp. 69.
- H. SCHILLER.—*Die Schulartzfrage.* III. 1. 1899. Pp. 56.
- W. S. MONROE.—*Die Entwicklung des socialen Bewusstseins der Kinder.* III. 2. 1899. Pp. 88.
- F. SCHMIDT.—*Ueber den Reiz des Unterrichts.* III. 3. 1900. Pp. 36.

Essai sur l'imagination créatrice. TH. RIBOT. Paris, Alcan. 1900. Pp. vii + 304. Fr. 5.

Zur psychologischen Analyse der Welt. K. B.-R. AARS. Leipzig, Barth. 1900. Pp. 295. Mk. 6.

Transactions of the Canadian Institute. Semi-centennial Memorial Volume. Toronto, Murray. 1899.

Ueber d. Möglichkeit u. d. Aufgaben einer Social Psychologie. F. EULENBURG. Report from Schmoller's Jahrbuch XXIV., 1. Leipzig, Dunker u. Humblot. 1900. Pp. 201-237.

Essai sur la Soif. A. MAYER. Paris, Alcan. 1901 (for 1900). Pp. 170. Fr. 3.

Statistical Methods with Special Reference to Biological Variations. C. B. DAVENPORT. New York, Wiley. 1899. Pp. vii + 148.

An extremely timely and useful handbook of the statistical method. It is to be commended to students of psychology as well as to workers in biology. It is an introduction to a department of work which is probably the most important advance in biology since Darwin.

J. M. B.

Studies from the Yale Psychological Laboratory. E. W. SCRIP-
TURE. Vol. VIII. (1899). 1900. Pp. 108. \$1.

Grundzüge der Psychologie. H. MÜNSTERBERG. Bd. I., Allgemeiner Teil: die Principien der Psychologie. Leipzig, Barth. 1900. Mk. 12.

Aspects of Mental Economy. M. V. O'SHEA. Bull. Univ. of Wisconsin, No. 36. Madison, Wis. 1900. Pp. 36-198. 75 cents.

Les Facteurs de l'Évolution des Peuples. A. MATTEUZZI. Trad. de Ital. Paris, Alcan. 1900. Pp. 411.

Life and Letters of Thomas Henry Huxley. LEONARD HUXLEY. Two vols. New York, Appletons. 1900. Pp. xii + 539, and 541. \$10.

These handsome volumes are of extraordinary interest to all who cherish the life and freedom of science. Huxley is allowed to do his own speaking and he speaks in his letters without reserve. Whatever one may say as to his place in the making of science—and that is possibly overrated—no one will deny that the world of emancipated thought and speech owes him a debt of lasting gratitude. J. M. B.

The Biography of a Baby. M. W. SHINN. Boston, Houghton, Mifflin & Co. Pp. 247. \$1.50.

A popular going-over of the life history of the baby already reported upon in more detail and fuller discussion in Miss Shinn's *Notes on the Development of a Child* (Pts. I.-IV.). Miss Shinn's work has had deserved recognition.

J. M. B.

Psychology, Empirical and Rational. M. MAHER. Fourth Edition, rewritten and enlarged. Longmans, Green & Co. 1900. Pp. xvi + 602.

Fact and Fable in Psychology. T. JASTROW. Boston, Houghton, Mifflin & Co. Pp. xvii + 375. \$2.00.

The Origins of Art. YRJÖ HIRN. London and New York. 1900. Pp. xi + 341. 10s; \$3.25.

Animal Behaviour. C. LLOYD MORGAN. London and New York, Ed. Arnold. 1900. Pp. viii + 344. 10s 6d.

An Essay on Personality as a Philosophical Principle. W. RICHMOND. London and New York, Ed. Arnold. 1900. Pp. xix + 219. 10s 6d.

The Census of Cuba, 1899. J. P. SANGER, Insp. Gen. Washington, Government Printing Office. 1900. Pp. 786.
Contains social and educational statistics of interest.

Report of the Commissioner of Education, 1898-9. Volume I. 1900. Washington, Government Printing Office. Pp. xcii + 1248.
Devoted largely to valuable reports on education in foreign countries.

An Enquiry Concerning Human Understanding. DAVID HUME. Chicago, Open Court Co. 1900. Brochure. Pp. xxiv + 180. 25 cents.

This is the second volume of the series of philosophical classics which the Open Court Co. are issuing in cheap form. It is an unannotated reprint of the edition of 1777, together with Hume's autobiography and the letter of Adam Smith to William Strahan. The *Enquiry Concerning the Principles of Morals* is to follow in the same series, which will undoubtedly be of great service.

Les Approximations de la Vérité. H. BLONDEL. Paris, Alcan. 1900. Pp. xii + 238. Fr. 2.50.

David Hume, Moraliste et Sociologue. G. LECHARTIER. Paris, Alcan. 1900. Pp. 275. Fr. 5.

La Philosophie de H. Taine. G. BARZELLOTTI. Trad. de l. Ilat. Paris, Alcan. 1900. Pp. xxvii + 448. Fr. 7.50.

Schopenhauer's Philosophie in seinen Briefen. R. SCHLÜTER. Leipzig, Barth. 1900. Pp. 125. Mk. 3.

Variétés philosophiques. J.-P. DURAND (DE GROS). 2 ed: revue et augmentée. Paris, Alcan. 1900. Pp. xxxii + 333. Fr. 5.

The Soul of a Christian. F. GRANGER. London, Methuen. 1900. Pp. 303. 6s.

L'Année philosophique. F. PILLON. 9^{me} Année, 1898. Paris, Alcan. 1899. Pp. 316.

Contains articles on *Le Principe de Relativité* by Renouvier, and *l'Esthétique criticiste*, by Dauriac, and the usual critical review of French publications of the year 1898.

Experimental Study of Children. A. MACDONALD. From the Report of the Commissioner on Education (1897-8, Chaps. XVI. and XXV.). Washington, Government Printing Office. 1899.

Contains 'Anthropometrical and Psychological Measurements of Washington School Children,' and a Bibliography of 'Child-Study.'

Ueber das Verhältniß der ebenmerklichen zu den übermerklichen Unterschieden bei Licht- und Schallintensitäten. W. AMENT. Inaug. Diss., Würzburg. Leipzig, Engelmann. 1900. Pp. 68.

NOTES.

PROFESSOR GUIDO VILLA has been called from Pavia to the Chair in Philosophy in the Lycée Tasso at Rome.

DR. T. P. BAILEY, of the University of California, has been appointed Lecturer in Philosophy and Assistant Professor in Pedagogy in the Extension Division of the University of Chicago.

THE chair of Philosophy and Pedagogy at Butler College, made vacant by the resignation of Professor E. S. Ames, has been filled for this year by the appointment of A. J. Rogers (Ph.D., Chicago), who comes from Alfred University.

H. HEATH BAWDEN (Ph.D., Chicago) has been appointed to a teaching fellowship in Philosophy in the State University of Iowa.

THE position of Dean of Women and Instructor in Pedagogy in Southwest Kansas College, Winthrop, Kansas, has been filled by the appointment of Miss Pearl Hunter, Fellow in Pedagogy at the University of Chicago.

A. H. PIERCE (Ph.D., Harvard), of Amherst College, has been appointed Associate Professor of Philosophy in Smith College; and R. B. Perry (Ph.D., Harvard), of Williams College, Instructor in Ethics in the same institution.

WE regret to record the death of Professor F. Max Müller, at Oxford, on October 28th.

PROFESSOR TH. ZIEHEN, of Jena, has accepted a call to the chair of Psychiatry in the University of Utrecht.

DR. L. W. STERN and Dr. G. Simmel have been promoted to Assistant Professorships in the Universities of Breslau and Berlin respectively.

C. K. SMITH, B.A., has been appointed Demonstrator in Experimental Psychology in Princeton University.

WE are informed that Professor Münsterberg has no intention of preparing or authorizing an English edition of his *Grundzüge der Psychologie*. This information answers a question which his readers in England and America are naturally asking.

PROFESSOR G. H. HOWISON's work *The Limits of Evolution* (named from the opening essay) is in press for early publication by the Macmillans.

WE learn that Professor William James, whose health is improving, is intending to spend the winter in Rome, and that he is making good progress in the preparation of the first series of his Gifford lectures.

PROFESSOR J. MARK BALDWIN has withdrawn his name from the Committee of Patrons of the International Psychical Institute of Paris.

As appears on the title-page and on the second cover-page, Professor H. C. Warren, who has been in charge of the PSYCHOLOGICAL INDEX from the first, is hereafter to be associated with the REVIEW also as associate editor and business manager. As editor he will have especial charge of the 'literature' department so far as it relates to the reporting of the contents of journals and other periodical publications. He wishes to interest in this department as large a corps of writers as possible.

WE may also call attention to the fact that G. E. Stechert from now on takes over the English and continental agencies of the REVIEW, and will be able to fill orders promptly.



